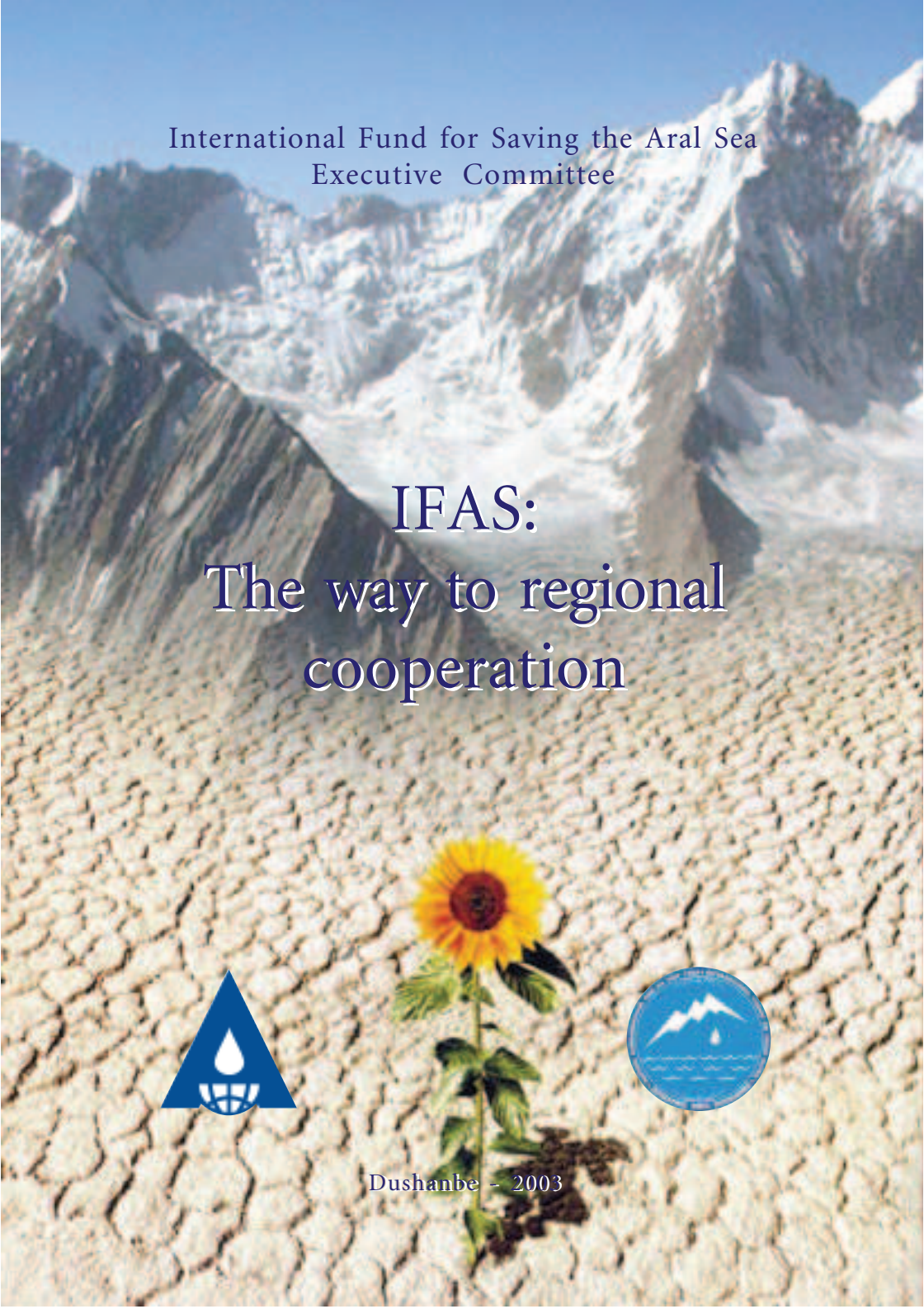

International Fund for Saving the Aral Sea
Executive Committee

IFAS:
The way to regional cooperation

Dushanbe - 2003

International Fund for Saving the Aral Sea
Executive Committee

To 10-th anniversary of IFAS and Dushanbe Iternational Forum of fresh water

IFAS: The way to regional cooperation

(the collection of articles devoted to Aral Sea Basin problems)

Dushanbe - 2003

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THE FOREWORD

10 years were executed from the date of formation of the International Fund for Saving the Aral Sea. And this event coincides with the international year of water. The heads of the Central Asian states at a meeting in Kzil-Orda city, on March 26, 1993, have signed the agreement on joint actions under the decision of problems of Aral Sea and Priaralye, to ecological improvement and maintenance of social-economic development of Aral Sea. This step has been dictated by necessity of prevention of global ecological accident - in the name of saving Aral Sea. For 10 years much is made, and much should be done.

The Aral crisis is drama event of the present.

Aral was unique natural object - lake with saltish water - with volume about 1000 cubic kilometers and the area over 60 thousand square kilometers, possessing high biological efficiency and the original world of alive organisms. Now in comparison with 1961 the Sea level has gone down on more than 20 meters, the water surface was reduced more than twice, the volume of water has decreased three times. If earlier in Aral annually acted 120 cubic kilometers of water but today this figure makes only some km^3.

- Aral Sea basin problems is a vivid example of the conflict of interests between the Person and the Nature. Within 30-35 years unreasoned politics of use of natural resources - overconsumption of water for needs of an irrigation from Syr-Darya and Amu Darya, has led to unprecedented influence on scale on an environment of region. As a result of water inflow reduction have begun and further have gone the accelerated rates a shallowing and salanity of Aral Sea. Growing deficiency of water and deterioration of its quality, have entailed degradation of land and a vegetative cover, irreplaceable changes in flora and fauna, decline muskrat breeding, fisheries, and practical suspension of fish manufacturing branches, Sea transport communications, reduction of efficiency of irrigate dagriculture.

In connection with Sea drying, the summer temperature has risen, dryness of air has amplified. The freezeless period is reduced that has an adverse effect on efficiency of agricultural crops. On drained bottom

of Aral the sandy-saline desert which became the center of carrying out of the salted dust in territory of Karakalpakstan, Khorezm and Dashoguz areas is formed.

The Aral ecological disaster renders negative influence on conditions and quality of a life more than 40 million inhabitants of basin - unemployment, reduction of incomes, migration, low level of life expectancy, high parameter of children's death rate, growth of bacterial and virus di Seases is not the full list of consequences of ecological crisis.

The states of the Central Asia together with the international organizations give a close attention and make the certain efforts on overcoming ecological and social - economic crisis in Aral Sea basin and to improvement of conditions in region.

However, for cardinal change of the situations, connected to this planetary crisis, the additional measures directed on improvement of ecological conditions in Aral Sea basin and the sanction of problems accompanying crisis are required. The heads of states - founders of the International Fund for Saving the Aral Sea have defined a priority direction in the decision of the problems connected to the Aral crisis. This improvement of socially - ecological conditions in region which promotes creation of normal vital conditions to the population living in Aral Sea basin.

In the book there are resulted materials (articles and statements of Central Asia countries representatives), reflecting essence of the Aral crisis and necessity for rallying the countries of region and coordination of their activity in joint decision of problems of Aral crisis.

Statement of the President of Fund, President of Tajikistan E.Rakhmonov at the World Water Forum (Kyoto, Japan), where it has been declared priorities in the decision of the Aral crisis, is especially important also.

E.SH. RAKHMONOV,
President of Tajikistan Republic
President of IFAS

PURE WATER - A LONG LIFE

(Speech of the President of the Republic of Tajikistan E.Sh.Rakhmonov at the third World water forum)

Dear mister Chairman!
Ladies and gentlemen!

First of all, would like to address with words of a greeting to participants of the present Forum and to wish all of you successful work. The problem of security discussed today water year from one year becomes actual in scales of all mankind.

Here it is necessary to recognize unalterability of the fact, that processes of globalization turn to us not only by the positive side.

Careful use of water resources becomes recently crucial for survival of mankind. Many countries and the whole regions of a planet experience from a drought from flooding, volumes and which consequences expand every year.

Influence of global warming and rising of sea level threaten to increase scales of the serious hydrological phenomena. Many less developed countries already now test water stress, and this tendency will amplify in the future. Even such advanced countries and continents as Japan and Europe today are subject to water problems.

The developing situation urgently dictates undertaking emergency steps. Recently published Report of the United Nations on this question evidently reflects today's position by way of security pure water and draws prospects which, we shall directly tell, rather menacing. Potable water now does not provide a plenty of the population of globe.

The discussions which are taking place in different formats, in frameworks perfectly organized by the government of Japan of the Forum show a degree of complexity of a water problem, and confirm necessity of wide partnership to keep for the future generations

necessary stocks of fresh water more and more.

Today it is necessary to achieve a task that the accepted obligations and plans of action on a water problematics have been realized in full.

The question of access to water becomes in one line with other fundamental laws of the person and it is quite fair, taking into account that water for the person is needs of organism nature. On these reasons special comments to the International pact about the economic, social and cultural rights have been accepted. It is a vivid example of many-sided nature of the water problem having legal, social, ecological, economic and other aspects and all countries touching to some extent absolutely and the whole regions of a planet.

Mister Chairman!

On taken place the last year in Southern Africa the World Forum on sustainable development specific goals have been determined in the field of water resources and sanitary and time frameworks of their performance are established. The International year of fresh water proclaimed by General assembly of the United Nations under the initiative of Tajikistan in the co-authorship with hundred forty nine countries of the world, represents a unique opportunity to begin large-scale implementation of the agenda on the water resources, that is approved on this summit.

Water, being the natural resource limited on the stocks, forms a basis not only for existence of a life on a planet, but also makes the important component of industrial activity of the person. In this connection, development of effective strategy of water use at all levels - global, subregional and national - in interests of long-term preservation of resources of fresh water available on a planet is vital.

Besides, Tajikistan counts important discussion of a question of an establishment of the minimal threshold of security by pure potable water, definitions of fresh water use criteria for industrial needs in a section of regions.

In our country it is formed more than half of all water resources of the Central Asia which have paramount value for maintenance of ability to live and stable development of economy not only Tajikistan, but also all our region.

In spite of the fact that Tajikistan is upper the largest waterways of region " water stress " for us not simply a word, but everyday reality of a life showing, especial in the field of maintenance with pure water of the population of rural areas.

Now for the states of the Central Asia including Tajikistan, the great value has creation of effective system of the water-savings by reconstruction of existing irrigational networks and channels on the new technological basis capable sharply to reduce loss of water during its use, it is especial in sphere of an irrigation of the grounds of agricultural purpose.

The question on acceptance of measures on protection of water basins against hit of waste products of manufacture and other pollution is represented extremely actual also.

Taking it into account , we purposefully work with our neighbours with a view of creation of the mechanism of Interstate use of water resources of region and development of the coordinated actions in the given area, leaning on experience existing in the world for the good of interests of all our peoples.

For our region there is no other alternative, as before us it is the problem of Aral Sea - this sad certificate of the unreasoned and prodigal relation to water resources, resulted to catastrophic ecological consequences and social economic degradation of huge territory. For last fifty years the area of a surface of this reservoir cut by half. If earlier in Aral annually acted about 120 cubic kilometers of water today this figure makes no more than 10 km3. The water level in the sea was lowered from 53 up to 35 meters. The main reason of so sharp changes for rather short period consists in intensive development of the new grounds which size for same time was doubled, having reached 8 million hectares. Today the volume of water-fence for the purposes of an irrigation makes about 110 km3.

Intensive expansion of the areas for manufacture of agricultural crops has led to increased level of a mineralization of water and salinity of the land. Now it is salted about one third of all irrigated grounds, that negatively influences their productivity. So - on the common well-being of the population.

If not to accept emergency measures to a problem of deficiency of

the pure potable water tested by the population of a lower reaches of the rivers, running in Aral, famine which will capture all region will be added. Today's condition of Aral Sea results in serious changes of climatic conditions in the Central Asia, and further it is fraught with even more dangerous consequences for a significant part of the Euroasian continent. On our supervision for last fifty years stocks of glaciers in mountains of Pamir - this natural pantry of fresh water, have decreased almost twice. Droughty years alternate with seasons of the intensive deposits, causing mudstreams, landslips, snow avalanches. Because of shortage of water the unique ecosystem deltas of the rivers running in Aral, that results in disappearance of rare kinds of flora and faunaturns, are turns to desert . These phenomena can have the most serious consequences for ability to live of the person, a condition of wildlife and a biological variety.

I as President of the International Fund for Saving the Aral Sea, with the responsibility, want to declare, that today rescue Aral is an essential task not only the countries of Central Asia, but also the World Community as a whole.

In this connection realization of the suggested by the Central Asia countries of idea of giving to institutes of the International Fund for Saving the Aral Sea of the status of establishments of the United Nations would become a logic part in the decision of this question.

The countries of the Central Asia in Dushanbe summit in October of the last year have ratified the main directions of the program of concrete actions on improvement of ecological and social economic conditions in Aral Sea basin for the period of 2003-2010 and now in cooperation with the International organizations develop the plan of concrete actions.

At this meeting it has been at the highest levels marked, that systems of maintenance with potable water in the countries of region experience the serious stress connected with intensive irrigation and deforestation of watersheds. The situation develops in such a manner that our region be unable to support a sustainable level of production of agrarian production and the foodstuffs if we cannot solve a problem of quality and quantity of water resources.

One of the main means of the decision of Aral crisis is the effective

utilization for the blessing of all region of the existing hydraulic engineering and irrigational constructions providing satisfaction of industrial needs of our countries and giving an opportunity of regulation of a drain of the rivers in region of Aral Sea. Tajikistan possesses the biggest water stocks in region and has fine conditions for construction of the new water-security objects promoting achievement of the specified purposes.

We carry out work on realization of civil-engineering designs of Sangtuda and Roghun hydroelectric power stations which alongside with substantial growth of opportunities of regulation of a water-drain, render due influence on economic development of all region, including Afghanistan. Put only behind end of these vital projects for region. We hope, that our efforts will be maintained.

We consider that the United Nations Organization, other International institutes and the separate countries, which contribution to the decision of this really a planetary problem while remains insignificant, in view of its scales render the states of the Central Asia the essential help and support for improvement of a situation in Aral Sea basin, differently a water problem in region, and not only in it, is capable grow in a problem number one and to cause conflicts and other dangers which consequences during an epoch of globalization will be felt everywhere.

Dear participants of the Forum!

The interested participation of all without exception of the states, association efforts of the International institutes, the nongovernmental organizations and private persons in business of realization targets, developed on numerous International actions on a water question, is a pledge of the successful decision of this problem. Today this question especially tensely faces to less developed countries, but in the near future it can already become actual for the advanced states.

In this connection the help of these states should be a proportional degree of danger of a situation and should be solved in a context of struggle against poverty as bases of occurrence and growth of sharp social and economic problems.

In this key as the concrete contribution to search of ways of effective

rational water use within the framework of the International year of fresh water, Tajikistan plans carrying out of the International Forum on this problematics which will take place on August, 29-31 of this year in Dushanbe.

During work of the Forum it is planned to make special accent on study of subregional and regional aspects of the decision of such major questions, as water and regional cooperation, management transboundary water-currents, water and health, water protection technologies, rational use of water basins and a number of others. The Dushanbe Forum is open for all those who wants to bring in the contribution to search of optimum ways of the decision of a problem of water resources and realization of the purposes on the water, fixed in the Declaration of a millenium and documents of the largest forums of the United Nations.

We hope, that it will become a tribune for less developed countries and the countries with transitive economy with which they can share the opinion concerning the actions necessary for perfection of water resources management, their zealous use and savings of fresh water for the future generations.

And the last, on what would be desirable to pay your attention.

Process of optimization of water resources management in a context of sustainable development should develop intensively and find the active continuation.

The International year of fresh water should give a pulse to this for the acuteness of a problem will be felt on increasing. In this connection I believe, that would be correct to declare, since 2005, the International decade of fresh water. This step would answer the purposes of the Millenium Declaration on questions of fresh water in which the task is put - to increase in 2015 twice number of inhabitants of the planet having access to pure potable water.

Thanks for your attention.

Kyoto, on March, 18, 2003.
It is reprinted from "the National newspaper"
№23-24, on March, 26, 2003.

K.K. KOIMDODOV,
The assistant of Primer-Minister of Tajikistan,
Member of IFAS Board,

THE INTERNATIONAL COOPERATION ON USE OF WATER RESOURCES IN ARAL SEA BASIN.

The state independence of the countries of the Central Asia and exit of water relations in region on the International level stimulated formation of a policy corresponding to new geopolitic realities rational and an effective utilization and protection of water resources, its fastening in normative-legal documents of a national and Interstate level.

In the Central - Asian region for the last decades, the interdependent water and power infrastructures consisting of cascades of dams, HYDROELECTRIC POWER STATION, water basins of seasonal and long-term regulation and other constructions, were generated. Difficult system what the water-economic complex in Aral Sea basin is, can effective function only at presence of qualified personnel, precise structure of management, the engineering equipment, guaranteed financing and development of the mechanism of water distribution.

The economy of the Central Asia countries is involved in the International division of labour. Creation and functioning of the Central - Asian cooperation Organization, the Euroasian Economic Community testifies to aspiration of Tajikistan and other states of region adequately to be integrated into world economic system.

But all it needs time. Today all countries of region only in the beginning of the way, besides reforming of economy occurs in them to different speed. In result in a water-economic complex of region there are many unresolved problems.

One of problems is insufficient development of legislative and normative-legal base in the field of use of water resources. All states of the Central Asia, except Kazakhstan, have not joined yet the Helsinki convention on water 1992 and Conventions on non-navigable use of the rivers 1997. And it not accident. Legislations of our countries in separate points contradict positions of these conventions. The

coordination of national legislations of the countries of CA demand and it is direct among themselves, it is especial concerning the approach to transboundary water-currents. In these conditions preparation and the conclusion of Interstate Agreements of direct action between the countries is very important. Now, such work only is started. By present time, there are made and successfully work only the Agreement on use of water-power resources of river Syr-Darya between Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan and the Agreement on section of water resources of river Amu Darya between Turkmenistan and Uzbekistan, and only is made out the Agreement on sharing the rivers Chus and Talas between Kazakhstan and Kyrgyzstan. Other prepared Agreements - on river Amu Darya; on an information database; on perfection of management structure; on ecological flow augmentation, etc., already during 5 years could not be signed. One of the main reasons of it is the low status of their preparation. All of them were developed by the SIC ICWC, not having powers of work with the Governments which are the parties of these Agreements. Here it is necessary to lift the status of preparation of Interstate Agreements on level of the IFAS with its Executive Committee.

Especially important question is development of economic relations in a water-economic complex. While in region there is no even a uniform approach to understanding of economic value of river water. One suggest to count its as a goods and to sell to the neighbour states, others count the it as common property. The certain disagreements between our states exist and concerning joint operation of objects of Interstate value to which concern the majority of the hydrounits constructed during existence of the USSR. The decision here could be creation of the common regional market. It is necessary to speed up its creation. The certain help in it could render the introduction of the countries of CA into WTO.

Up to the end the question of mutual relations between irrigation and power is solved in region also. In today's conditions they have got the Interstate value. National interests of the countries of upper stand rivers consist in use of a drain with a view of power, lower stand rivers - with a view of irrigation. The coordination of their interests is

provided today within the framework of the Agreement on river Syr-Darya, from March, 17 1998. Thus interests of the countries taking place in upper situated rivers are broken. River basin Amu Darya thus in general drops out of consideration. It is possible to solve this problem by the water-power consortium, the decision about the creation of which was accepted by the Presidents of all republics of CA in 1997 and is confirmed by them in July 2003. Unfortunately, despite of 5 years efforts, real successes in creation of such consortium till now it is not achieved. It is connected by that till now there is no clearness in organizational and, the most important, in economic mechanisms of functioning of a consortium. Study of these questions is in common necessary for all republics. Such project - development of the FEASIBILITY REPORT of a water-power consortium - is supposed in the ASBP-2.

One more important question is institutional control system of a water-economic complex. It is necessary to overlook the regional status of today existing structures (BWO, SIC ICWC) . Especially their reforms regarding rotation of the managerial personnel, participations in work of national experts and territorial accommodation of the organizations

Last 10 years have shown importance of presence in the Central - Asian region of the International Fund for Saving the Aral Sea (IFAS). In frameworks of the IFAS the most significant results in the decision of problems of a water-economic complex of region have been achieved. This coordinating body has been formed on March, 26, 1993 by the decision of Central Asian states Heads, which has gathered at a meeting in Kzil-Orda. It is difficult to overestimate role of the IFAS in business of maintenance of dialogue, mutual understanding, the decision of practical tasks of a water-power exchange, development of initiatives and partnership at a regional level and with the various International organizations. For the first time in the International practice for the decision of water-economic, ecological and social-economic problems the authoritative Interstate body headed serially one of presidents of the Central - Asian states has been created so high level. Since February 2002 within three next years the IFAS is headed by the President of Republic Tajikistan E.Sh.Rakhmonov.

Realization of regional project GEF " Water resources management and an environment in Aral Sea basin" is one of priority directions of the IFAS activity. The project is directed on development of national and regional water strategy, increase of safety of dams, monitoring of transboundary waters and to formation of the public opinion, promoting stability in the Central Asia.

Executive Committee of the IFAS since 2001 cooperates with the Special program of the United Nations on rational and to an effective utilization water and power resources of the Central Asia (SPECA). There are already developed the Diagnostic report and the concept of strategy which are approved on Regional Advisory Committee (RAC) in structure of this program. In 2003 work above Strategy of regional cooperation on rational and to an effective utilization water and power resources of the Central Asia comes to the end. The turned out documents focus on perfection of normative-legal base, creation of the economic mechanism of water use, the coordination of national interests, cooperation for achievement of regional effect which will be expressed in stable development of the states of the Central Asia. The similar document in region is developed for the first time and the task of participants of this project to finish it with the logic end - statement the Governments of the states.

Prospects of sustainable social and economic development of region as a whole substantially depend on presence water and power resources.

On taken place on October, 5-6 2002 in capital of Tajikistan of Dushanbe session of Heads of the Central Asia states the new initiative under the decision of problems of Aral Sea basin is put forward. The Dushanbe Declaration and the authorized priority directions " Programs of concrete actions on improvement of ecological and social and economic conditions in Aral Sea basin for the period of 2003 - 2010 " focus the states of the Central Asia on the further coordination of mechanisms water resources management, rehabilitation of water-economic objects, improvements of use of water and ground resources, struggle against desertification and acts of nature, performance of nature protection actions, strengthening of legal base of cooperation in a context of sustainable development and improvement of social

and economic conditions of the population of Aral Sea basin. According to these priority directions experts of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan together with the International organizations and representatives of donors finish work above the program which will be submitted to the IFAS Board for the statement. It is a unique opportunity for the states of region under the decision of national and regional tasks in Aral Sea basin.

Scale and the importance of regional problems, naturally should not replace with itself necessity of the decision of tasks of national character. Actually, questions of rational, economical use of water resources is solved directly on a field, the enterprise, in area, in region, in the country and in many respects depends on the concrete people involved in these processes. Therefore from these positions at first sight especially national water problems are expedient for considering as a part of regional problems, the account, balance of national interests in a context with ecological safety of the countries of region. Cooperation will allow to excel regional scale in this foreshortening.

Tajikistan has the big stocks water and power resources of regional scale. Available capacities in republic allow, especial in summer period to export for needs of region the cheap non-polluting electric power. In basin of Amu Darya there are fine opportunities for creation of water basins with finishing their volume up to 68 km3/year which allows guaranteed to provide with water and the electric power all region. While available water resources of Tajikistan reregulated on 23 %, power resources (527 billion kWt. h./year) is used on 5-6 %. Individual share in development of these riches will allow to solve in the natural way questions of a joint management of created hydrounits. The major object started construction even during Soviet time, is Roghun HYDROELECTRIC POWER STATION, capacity 3600 MWt., with a water basin of 13,3 billion m3. It is recognized as Regional Advisory Committee of Program SPECA in priority hydrounit of regional value. This water basin together with working Nurek (volume 10,5 billion m3) allows to provide reliably water more than 3 million hect. the grounds in basin of Amu Darya, is especial in shallow years.

Minimal in region of requirement of Tajikistan in water (no more

than 20 % from basin parameter on very much remote prospect) a pledge of natural observance of neighbouring interests of region countries in water resources. Cooperation in water-power sphere are favourable for accommodation of the capital, as, in Tajikistan the most minimal cost price for electric power is 0,4 US cents for 1 kWt/h., there was an economic mechanism of return of put means, tax and customs privileges operate. Therefore has ripened time of the conclusion of the Agreement on use of water-power resources of a river basin of Amu Darya as all of us in region have good experience under the Agreement in basin of Syr-Darya. It will allow to eliminate contradictions in competing uses of water (power - irrigation; a upper-lower reaches), to save scarce water resources, to direct them to zones of ecological disasters.

Real alternative to the water-savings in foreseeable prospect is not looked through. Therefore the decision of questions of the water-savings despite of national painting, has regional character. In region and Tajikistan in particular are necessary gradual transition to a system method of management within the limits of hydrographic, instead of administrative units, acceleration of creation of associations of water-users, introduction of demand management of water, differentiation of payments for water depending on concrete conditions, development of various forms of private, collective and joint-stock water use. For this purpose financial support of water-users is necessary for reduction of irrigational systems a normal condition (rehabilitation). It is important to increase number of training centers on preparation of the corresponding staff, to provide advertising new technologies of the water-savings, formation of corresponding public opinion at a national and regional level, it is necessary to expand performance of pilot projects. We have good experience of regional scale in Fergana valley, and also in local projects of the World Bank and the Asian bank of development in Tajikistan. Therefore support of the initiative of Heads of the states of the Central Asia about necessity of creation of the special Commission of the United Nations on coordination of activity of the International organizations and the countries of donors in the decision of problems of Aral Sea basin, and giving to the IFAS of the status of division of the United Nations is very important.

The announcement of 2003 has strengthened activity of the World Community on search of ways of the decision of water problems International year of fresh water. Global water problems demand constant attention and everyday efforts, therefore the offer of the President of Republic Tajikistan, E.SH.Rakhmonov, stated on III World Forum on water resources (Kyoto, March 2003r.) about the announcement since 2005 decade of water deserves approval and support. Maintenance of mankind with water is difficult, but a noble task.

Put before the IFAS tasks, from social and economic up to a problem of an effective utilization of water resources, are today one of the most actual for all mankind. For the decision of them there are not enough efforts of only one republics of region. Participation of all World Community as these problems have already got planetary character is necessary.

A.S. ESIMOV,
Deputy Prime Minister of Kazakhstan,
Minister of agriculture of Kazakhstan,
member of Board of the IFAS

THE NATIONAL ACTIONS PLANS IN THE DECISION OF REGIONAL PROBLEMS OF THE ARAL SEA BASIN

Problems of Aral Sea basin is, first of all, display of the long natural-economical crisis which has captured huge region owing to disbalance between available water resources and economical system, existing in Central Asia. As it was marked at the Dushanbe meeting of the Heads of the states - founders of the International Fund for Saving the Aral Sea, as the reason, and in particular consequences of the Aral crisis for destiny of all mankind yet are not investigated.

If to speak with reference to Central Asian region, in conditions of dry hot climate consequence of irrevocable withdrawal of a drain of the rivers Syr-darya and Amu Darya, extensive conducting an agriculture with the large expenditure of water were extremely negatively reflected not only in natural environment of region, but also on economy, conditions of residing of the population.

As feature of the Aral Sea, as natural object, it is necessary to consider its important role in maintenance of sustainable ecological balance in basin and it climate forming meaning. The sea was unique natural purificative of superficial waters acting from the top and average parts of basin, had the large stocks of bioresources. With drying up of the sea these nature regulating function are lost. The negative consequences of crisis have ceased to be the local phenomenon limited to territory to former water area of the sea. The border of influence of ecological disaster on components of natural environment is ever more displaced from the bottom current of the rivers on average and is shown in sharp deterioration of an irrigative condition of the irrigated grounds, bogged and salted, reduction of productivity of agricultural cultures and vital level of the population. It means, not only territory of Kazakhstan, Uzbekistan and Turkmenistan, but also Tajikistan, Kyrgyzstan, i.e. areas

of formation of drains of the rivers, are exposed to serious danger. The area of irrigated grounds makes 7,0 million hect., from which in Amu Darya basin 3,8 million hect., Syr-darya - 3,2 million hect., which represent fertile grounds and make a basis of economy both life-support of this huge and dynamically developing region. Water and ground here synonyms of well-being and reliance of the future. That is why preservation of the Aral Sea, in essence, is the major factor of regional safety in all its various aspects; today with all evidence that fact is realized, that the decision of the Aral problem cannot be considered it in interests of all region and it as separate social - ecological or water economy problem of any one country without the account all making regional cooperation.

From that time, when the understanding has come that the hardest consequences of the Aral crisis can destabilized not only ecological situation, but also result of destructive changes in economy, vital way of life of the population and, at last, Interstate relation in region, in Kazakhstan part of Priaralye the serious enough measures on an output from the created situation are undertaken. Despite of a hardest economic condition of the country per the first years of its independence, the large attention and support was given to Priaralye. In difficult conditions the activity had been continued for the recovering of the socio economic and ecological conditions. All these actions are considered from positions of the national contribution in strengthening regional cooperation, as at a level of effective national actions the concrete realization of the Interstate programs and projects in basin of the Aral Sea is reached.

The present year for the states of Central Asia is significant, year of decade of creation of the International Fund for Saving the Aral Sea. In this connection it would be desirable once again especially to emphasize huge importance of signed agreement, about joint actions on overcoming consequences of crisis of the Aral Sea, 10 years back by the Heads of five states of Central Asia Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The reference of the first President of the IFAS, the President of Kazakhstan N. Nazarbaev to the majority Heads of states of the World have created the sympathetic relation of the International Community, World financial institutions to the Aral

problem. Due to his high authority in World Community, personal participation in development and realization of strategic directions in the decision of the Aral problem, for rather short term it was possible to consolidate at an Interstate level of effort on protection of the population against consequences of the dried up sea and normalization of socially ecological conditions in region. In this connection it will be pertinent to note statement of the President of Uzbekistan I. A. Karimov in the meeting of the Heads of the states of Central Asia on Aral problems in 1999 in Ashgabad, in which he has told: " First of all, before acceptance of the decisions I would like today a little to restore a history and once again to tell that the initiative of creation, idea of creation of this fund belongs to N.A. Nazarbaev, and I wanted it more and more time to emphasize ".

I shall remind, that in Kzil-Orda city , N.A. Nazarbaev in March 26 1993 offered to the Heads of the states of Central Asia to form the International Fund for Saving the Aral Sea. N.A. Nazarbaev the President of Kazakhstan elected as the first president of the IFAS. For the first time in the International practice for the solving an ecological problem had elected such a authoritative Interstate body on such high level, which proves the importance of the problem and it is headed by one of the presidents of Central Asian states. IFAS promoted the qualitatively new Interstate relations in region, strengthening regional cooperation, solving such complicated water supplying problem without conflict. It is enough to tell, that for last decade the region repeatedly was exposed of a various sort to natural processes like droughts and floods, earthquakes and landslips, which have rendered serious enough influence on conditions of water using and economic situation in region. At all complexity of a situation IFAS and its institutes: the government, Executive Committee, Interstate coordination of water supply Commission, Commission on sustainable development etc. are undertake all measures, that the problems of water distribution, ecological safety, economic development in such periods were solved on a priority basis for the interests of each party. It is a rather difficult task and it can be solved only within the framework of Interstate cooperation. Kazakhstan is given much attention to measures on restoration and maintenance water resources in the bottom part of

the river Syr-darya, which will help the stability of all ecosystem of the Aral Sea basin , and also promote regional ecological safety. On realization of the large complex of works from Shardarinskiy reservoir up to the Aral Sea, including construction of a dam Northern Aral, Kazakhstan has involved extra means of the World Bank in volume of 64,5 million USD $., individual share of Kazakhstan - 21,29 million USD, at the expense of which are carried out reconstruction of the Aral Sea - it northern part and restoration of all lake systems. It will enable to keep the sea as natural object, that will have the important meaning for all region, taking into account of it climate forming role. Concerning Syr-darya bed, here within the framework of the same loan the works on restoration of a natural mode of Syr-darya had begun, which have a high degree of reregulation on the average current , it is planned also improving the management of transboundarys water resources and preservation of their quality, reduction of losses of water in a channel of the river and irrigated agriculture. The carried out so large-scale works, no doubt, have regional importance and should be estimated as the contribution of Kazakhstan to realization of the Interstate programs of concrete actions in Aral Sea basin.

The large attention is given to ecological problems of Aral Sea basin in republic and the significant means for their decisions are put. For 1992 - 2002 on realization of the programs and projects on improvement of an ecological and socio economic situation of region is directed all of means from all sources of financing 757,1 million USD, which includes Kzil-Orda region - 636,8 million USD and Yuzno-Kazakhstanskiy - 120,4 million USD. The considerable contribution is brought in to development of region by the International institutes both countries - donors. The grants and the loans of the foreign donors have made 98,43 million USD. In parallel with performance of the Program of Aral Sea basin (ASBP) the International Fund for Saving the Aral Sea together with the World Bank in 1996-1997 realizes the regional short-term project of immediate influence directed on the decision of urgent needs of the population, in the sum of 2 million USD, within the framework of which in crisis areas of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan were directed equipments of first aid, mobile water carrier, filters for clearing water, fishing net, equipment

for medical departments. At the expense of payments of Kazakhstan in the International Fund for Saving the Aral Sea in 1993 - 2002 within the framework of the Program of Aral Sea basin in Kazakhstan part of Priaralye more than twenty projects on a total sum of 3,64 million USD are realized. These projects were directed on:

- supply of the population by pure drinking water by construction new and reconstruction of existing waterpipes, refreshing of the local mineralized underground waters, delivery of the auto water carriers, drilling of new chinks;
- filling by water of the drained lakes in delta of the river Syr-darya and WATERING of pastures and haymakings by blocking the river Syr-darya, construction of new channels, reconstruction hydrostations;
- the decision of social questions by an establishment of the mini boilers at schools and preschool departments, delivery of first aid equipments, medical devices and rendering of the material help to needy families.

The regional project of Global Environmental Foundation " Water resources management and environment in Aral Sea basin" (Project GEF) is finished. The project is directed on development of national and regional water strategy, creation of a complex of legal tools of management transboundarys by water resources based on the International water right, realization coordinated by water supply policy between the independent states in region, decision of ecological and social problems and, as a consequence, maintenance of stability in Central Asia. The financing of the project was carried out by the World Bank, governments of the Netherlands, Sweden and countries of Central Asia. The individual share of Kazakhstan in the Project has made more than 1,0 million USD. As the realization of such programs and projects carries long-term character, the appropriate regional institutes on water resources management should steadily function. Today to their prime tasks concern annual distribution of water resources on the basis of the existing order water division, development of the mode of operations, coordinated between the state-participant, of reservoirs in view of interests of each state, assistance in performance of the national programs on economy and reduction of an expenditure of water in irrigated

agriculture, improvement of irrigation system condition. Each country, having the share of water resources in general water balance of basin, within the limits of this limit should carry out the national programs of water supply. The expansion additional irrigated grounds in these conditions is possible with the estimation of the disengagement of the watering water at realization of measures on its economy and reduction of specific expenses on cultivation of agricultural cultures, industrial and communal-household needs. The Aral Sea is considered as water using - natural-geographical object. Its share should be provided in water balance of the states of basin. All these questions make priority directions of the IFAS institutes activity and to the full according, they should carry out regional policy in interests of each state of region , with allocated powers.

The Commission of sustainable development of IFAS which created in 1994 for maintenance of offers development by definition of priority directions of development of basin both realization of scientific and design development directed on ecological improvement of the Aral region made active the work since 2000 after transition of the chairmanship of powers to Kazakhstan. The absence of financing, unsufficiently precise definition of legal frameworks and organizational structure of its working bodies had an effect for efficiency of activity of a Commission in many respects. For the period 2000-2003 years the Commission had provided the following activities:

- prepared the Regional Environment action plan (REAP);
- coordinated the regional position of the countries of Central Asia on RIO-10;
- developed the mechanism of coordination of the programs and projects on protection of an environment and sustainable development which is carried out in region;
- initiated the creation of the Regional Ecological Center of Central Asia (REC CA) is initiated which has been formed in 2000 with accommodation of headquarters in Almati;
- There were carried out International conferences on sustainable development of Priaralye on a high level in Nukus and Cholpan-Ata.

The measures, carried out by Kazakhstan, on improvement of a

socio economic situation in Priaralye, realization of the Program of concrete actions in Aral Sea basin accepted by the Heads of the states of Central Asia in Nukus in 1994, as a whole have allowed to solve a number of questions connected to improvement of drinking water supply, health services, the rest of Priaralye children, prevention of draughts. For the decision of the Aral problem the loans of the World Bank, Asian Bank of Development and other International financial institutions are involved. If to make the list that is made here for these years, the rather impressive list will turn out. But today other approaches to the decision of the Aral problem are necessary essentially, when the consolidated efforts of national economy and involving of natural resources of the states in regional economic integration will allow to proceed the real effective system of water supply and water distribution and by that cardinally in the best party to change a socially ecological situation in region. Each country has sufficient natural resources and they, in new economic conditions and integration of national economy in the effective regional market, should promote to economic and ecological improvement of region. For this purpose the countries should create legal and economic conditions village and other goods producers, allowing to ensure unobstructed moving of the capital and exchange of the goods in region. This question has important meaning in Kazakhstan, considering its key in the decision of the Aral problem. So for example, the found stocks of hydrocarbon raw material in Priaralye should give a powerful push for growth of economy not only for Priaralye itself , but also for all country. Probably, the assimilation of these petro-gas bearing deposits will be the joint regional project with participation of the capital and other resources of the countries of region. The economic benefits of such approach are obvious, as all southern region of the country can be supplied energy bearer in view of their export deliveries for its limits other countries of region. The rise of economy of Priaralye is a primary factor of the decision of all socio economic problems. Its difference from the earlier existing republican programs, that in this case emphasis, should be done(made) not on reception subvention or grants of the republican budget, and on active attraction both internal, and external investments for intensive development of natural resources of Priaralye. It is the essentially new

approach to the decision of the Aral problem and such vision of a situation in region allows from completely other position to estimate a role of the IFAS and its institutes in the sanction of the Aral crisis. From their party should be initiated and the offers concerning rapprochements legislative and rules of law ensuring functioning of the mechanism of regional economic integration are prepared which will allow development on beneficial terms of all forms of business with attraction of the foreign capital. The investment projects should be attractive and for this purpose there should be for the certain period a special order of the taxation. Spheres of these projects should be practically all branches of economy and first of all, agriculture. So for example, Kzil-Orda region was always glorified as high productive by animal industries, in particular, camel breeding and manufacture of its dairy production; Fishery and vegetable are traditional branches of an agriculture and economically favourable, however because of drying up of the Aral Sea, they have lost the importance. Regional integration and restoration of water resource potential of the Kazakhstan part of Syr-darya will allow Kzil-Orda and Southern Kazakhstan regions to become powerful industrial-agrarian area with high productive industry process. The above named approaches are necessary for reflecting in view of new economic realities and vision of a situation in region in the new Program of concrete actions on socio economic and ecological improvement in Aral Sea basin (ASBP-2), developed now on behalf of the Heads of the states of Central Asia. The realization of this program and its stages should ensure development of business and small business in an industry, agriculture, sphere of services. It will cause improvement of drinking water supply, health services and creation of urgent measures on protection of health of the population, development of a fish economy in lake systems, stability of an agriculture and food maintenance. It is very important, that the new Program of concrete actions (ASBP-2) became a basis for economic integration of the states of region and improvement of socially ecological conditions in Aral Sea basin.

B.E. MAMBETOV,
Vice-prime Minister of Kyrgyz Republic, Member of
Board of International Fund for Saving Aral Sea

DEVELOPEMENT OF REGIONAL COOPERATION ON WATER RESOURCES MANAGEMENT IN BASIN OF ARAL SEA: REQUIREMENTS AND ALTERNATIVES

The states of the Central Asia more 12 years in conditions of independent development build the future. The economic and social life of the given region confidently enters into a modern mode of world development. Initial euphoria of the absolute sovereignty makes way for joint cooperation of the states, people and politicians. Time of scattering of stones, characteristic to the beginning of 90-th years passes, there comes the world of common sense, an epoch of universal cooperation, time of competence of people and the responsibility of politicians. Conclusions of the separate International analysts, forecasting to the new Asian states of the relation of rivalry instead of cooperation, national ambitions against sensible decisions do not come true.

Special climatic conditions of the Central Asia always put on the first place in Interstate relations questions of distribution of water, a problem mutually advantageous and without conflict their decisions. In conditions of sharply continental nature and dryness of territories water resources here act as a primary factor of sustainable development of economy of the states, a parameter of social state of health and well-being of peoples. Reviving new economic build and choosing the national model of transformation of a political life, the states of region could keep historical base for sharing all water resources, drains of the small and great rivers. And it can be and all wisdom of peoples and foresight of statesmen consists. Otherwise cannot be.

Drains of the majority of the rivers of the Central Asia, being formed on territory of one country, pass in another. And to such great rivers Syr-Darya and Amu Darya are Such, have access of 4-5 states simultaneously.

Despite lacking for today Interstate contracts practically on all

transboundary, to boundary and other rivers, the states keep parity relations, continue to keep a favorable mode of water use.

In questions of definition of the International legal status of transboundary rivers and acceptance of the common order of distribution and use of their resources the Central Asia far has not promoted yet.

Only in 1998, for the first time, four states - Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan - have signed the agreement on sharing water-power resources of basin of the rivers Syr-Darya, designed for 5 years. For today it is the unique agreement regulating the attitudes of the states to the given basin concerning irrigational and power use. This agreement is considered intermediate, designed on the certain period.

" Nevertheless, unequal allocated territories of water resources, a different level of intensity agricultural and industrial production, and also various approaches to definition of the rights of everyone on river water give to a problem of a joint management of stocks of water unique character. One countries put forward idea about a generality and indivisibility of all water resources of region, others consider, that water as the means of production, can have the economic properties and access of each state to river stocks, will be defined by these categories.

Such unequality of vews can undermine an existing good-neighbourhood, to call into question everything, that has been achieved for this time. In the given situation passive expectation is undesirable also, necessary to do something. In fact any relations and arrangements have properties to become outdated if not to bring them into accord with realities of new time, to not give to them new maintenances. In the Central Asia now live more than 55 million people and there is a rapid development of economy of the states in a combination to fast growth of the population.

In the center of water relations of 5 states of this region there are basins of the rivers Syr-Darya and Amu Darya, total which annual drain make more than 100 billion cubic metre of water. And this huge stock of water for satisfaction of vital needs does not suffice. It, certainly, a nonsense if to take into account, that Jordan and Israel on 8 million population, consume all 3 billion cubic metre of water. Our

states worry concerning water safety more and more. We like all in water, at the same time without water. And by and large we do nothing, that this resource of water of two great rivers has sufficed all states, and also could rescue Aral Sea. Now the unique Aral reservoir fast rates dries up, and many scientists approve what to rescue this lake already practically it is impossible. 30-40 years ago Aral Sea was supported by annual inflows of two rivers to volume 60 billion cubic metre of water, and now it does not receive even 10 billion cubes.

We assume, that in 25 years the population of the Central Asia will be made about 90 million by person and then the increased needs agricultural and industrially - household sphere will force us to forget in general about this world and it can disappear for ever from the surface of the earth.

In January, 1993 the heads of five states have created the International Fund for Saving the Aral Sea. In the structure of it " fund are available: Board of the IFAS, a revision Committee, Executive Committee of the IFAS, branches of Executive Committee in each state. Interstate Coordination water-economic Commission (ICWC), Secretary of the ICWC, Scientific - information centre (SIC ICWC), basin water-economic organizations - BWO "Syr-Darya" and BWO " Amu Darya, the Commission on sustainable development (CSD), its secretary. Scientific - information centre at Institute of Deserts of Turkmenistan and others.

Missions of the International organizations accredited in the Central Asia, carry out tens Programs and projects on Saving the Aral Sea. From them Program "WARMAP" of the European Community, the Special Program of the United Nations for economy of the Central Asia "SPECA" ESCATO and the European economic Commission are significant Program GEF " Water resources management and an environment in Aral Sea basin " global Environmental Foundation. The program of Aral Sea basin of the World bank and others. But, unfortunately, all this help if to estimate on - big, is ineffective - real feedback does not give. For this time has not increased at all waters in Aral Sea, process of desertification of territories proceeds, people occupying adjoining to Aral territories, have lost any hope.

Having in region numerous International, Interstate and national structures on Aral, we have failed to provide effective coordination of all help of the World Community. Volumes of already rendered help only by the World bank are estimated more than 30 million US dollars. Except for it now there is an approbation of program GEF on more than 20 million US dollars.

Many International experts now are declined to opinion, that the structures existing in region, called to deal with problems of rescue Aral, in this business in essence are not engaged. We practically do nothing free to pass to Aral even winter drains of Syr-Darya and Amu Darya. Winter water flows, for example Naryn Syr-Darya basin are dumped in Arnaysk hollow in Uzbekistan - the new lake with volume 25 billion cubic metre of water there was formed. The state of the bottom current of Syr-Darya and Amu Darya now carry out large-scale projects on construction of new water basins to detain these drains for irrigational needs of the countries.

All these circumstances urgently demand others, is perfect other approaches to water resources management of the Central Asia. The fresh estimation is necessary both to programs and the projects which are carried out here within the framework of Aral Sea. Anybody to us will not add missing Aral 60 billion cubic metre of water every year. The effective regional control system of water resources is necessary, it needs to be prepared and accepted.

Taking into account uniqueness and originality of a problem of access of the states to water sources, and also absence regional the agreement, regulating sharing and management of the general water systems, is necessary to begin work on development of the Central - Asian water convention. After that, making use of world experience, the states of region should prepare and sign universal contracts on basins of the rivers Syr-Darya and Amu Darya. These documents should define precisely the International legal status of these rivers, fix rights and duties of each Side and other main aspects of water attitudes. These questions today are main, without their decision the future relations cannot be under construction. Alternatives to these documents are not present. It is need of the new epoch, new civilized relations. Also it would be desirable to trust, that the states of the

Central Asia will make a worthy step on a meeting to these calls of XXI century.

The central - Asian states except for the mentioned above two large basins of the rivers are incorporated still by many other big and small river water-currents, dams, channels and water basins. The Interstate status of the specified water resources and water-economic a construction of joint using till now is not determined. For the lack of arrangements on them, the states which are taking place in headwaters of the rivers, can take away so much waters, how many consider necessary, despite of that the river in territory of the underlaying state can shoal.

The states of the Central Asia within 10 years cannot allocate necessary means for repair and reconstruction of large water basins, Interstate dams and channels which are in joint using. Them in region more than 30 constructions.

Technical and operational condition of many of them unsatisfactory. For maintenance of reliability of Interstate water-economic constructions it is necessary to develop and realize the regional Program of their rehabilitation with attraction of grants of the International organizations and the countries of donors.

Today the states, proceeding from the national interests, aspire to receive more and more rights to consumption of resources of the joint rivers. The more they take away water, the less than responsibility for its rational use. The condition of irrigational networks and low technology of an irrigation of the grounds result in loss up to 4% percent of distracted water for needs of an agriculture.

Practically all transboundary rivers in the Central Asia are formed in mountains and originate from glaciers. In glaciers of region it is concentrated more than 1500 billion cubic metre of fresh water and without them any transboundary river will not be deep, and to satisfy needs of territories. As a result of global warming a climate glaciers fast rates melt and decrease on volume. Though this problem, that on is transboundaryed, anything in scale of region is not undertaken. It is not obviously possible to estimate precisely a present condition of glaciers, to compare them to the data made 20, 30 years ago. Destroyed there was once existing state system of monitoring and research of

glacial files. In this connection the technical and financial help of Global Environmental Foundation and the recommendation of the International experts on prevention of disappearance of glaciers is necessary.

Carrying out recommendations of the World mountain summit, which has taken place in Bishkek in 2002; necessity of carrying out for this year in the capital of the Kyrgyz Republic of the Central - Asian conference on a theme " the Modern condition of mountain glaciers as zones of formation of a drain of basins of the rivers and possible consequences of its disintegration " has appeared.

Within the framework of this conference it is supposed to consider hydro-geological, climatic, ecological and social and economic aspects of the given problem, possible ways of restoration of regional system of monitoring behind high-mountainous glaciers of the Central Asia, and also the edition of the modern Central - Asian atlas of glaciers? The given conference will bring in the necessary contribution to carrying out to this year the International year of fresh water, and we are going to invite to this conference interested International organizations.

K.M.VELMURADOV,
Minister water
Economy of Turkmenistan

THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA AND ITS STRUCTURE AS HISTORICAL NECESSITY

This year 10 years to the International Fund for Saving the Aral Sea (IFAS) were executed. Creation and activity of this International organization, and also its structural divisions is connected not only to the crisis phenomena in Aral Sea or with an ecological balance disruption in basins of the rivers Amu Daryas and Syr-darya, but also with necessity of joint actions on rational use and protection of water resources in this region.

It is known, that IFAS includes also Interstate Coordination Water-economic Commission (ICWC) which 10-anniversary also has been celebrated recently.

Summing up ten years' activity of the IFAS and the ICWC, we have the right to ascertain, that they are in due time conceived and involved organizations between our countries. For past 10-anniversary, with participation of countries - founders, these organizations could provide their duly knowledge, the compromise in the decision of urgent questions and development of concrete variants of joint actions.

Marking big merits of the IFAS and the ICWC in joint struggle against the crisis phenomena in Aral Sea and Priaralye, and also in extremely peace decision of questions of sharing and protection of water resources in basins of the rivers of Amu Darya and Syr-Darya, we bow down before their founders for foresight, correctness of ideas, knowledge of customs, customs and traditions of our peoples, long since historical neighbours.

Turkmenistan as one of countries - founders accepted active participation in work and realization of activity of these Interstate organizations. During 1992-2002 Turkmenistan, due to all sources, it is financed works and expenses for the sum exceeding 335 million US dollars.

Carrying out of the obligations before the IFAS, the Government and Mejlis of Turkmenistan annually provide in the State budget allocation

of the current payments for needs of Priaralye according to the established quota.

These means have been used for improvement of ecological, social and economic and sanitary-and-epidemiologic conditions in territory of Turkmen Priaralye and maintenances of structures of the IFAS - Executive Committee of the IFAS in Ashgabad, in Dashoguz branch of the EC IFAS and SIC ICSD.

Due to these means, there have been constructed and entered into operation more than 80 kms of water supply systems, 20 kms of lines of electrosupply, about 30 kms of sewer networks, 45 kms of Interstate drainage collectors, submission of potable water to settlements Dashoguzskogo velayat and Dashoguz city has been increased by 48 thousand m^3/day.

Besides the Government of Turkmenistan constantly finances the extensive program "Aral", providing construction of objects of habitation, public health services, municipal and a water management. For the period 1992-2002 within the framework of realization of this program have been constructed and entered into operation:

- Habitation - 350 thousand sq. m
- Hospitals - for 1055 beds
- Polyclinics - for 1925 visitings in change
- A factory of pure potable water - 750 m^3/day
- Gas networks - 5300 kms
- Water supply systems - 4700 kms
- Sewer networks - 140 kms
- Electric Transmission lines - 170 kms
- Drainage a collector Interstate and interfacilities values - 480 kms
- Additional volume of water-submission to the population of Dashoguz velayat - 120 thousand m^3/day

Development of Turkmenistan in conditions of the state independence, a positive neutrality has opened wide prospects for economic and social progress, cultural and spiritual updating of a society. Consecutive carrying out of the started economic reforms, creation essentially new and is high effective structure of economy with the advanced market institutes

guarantees economic and political independence of the state, provides ecological equilibrium, creation of worthy conditions of a life of activity of citizens. The mankind has entered a new millenium with a lot of the global problems exciting today all World Community, major of which - interaction of a society and the nature, rational use of its resources.

In Turkmenistan it is planned and carried out the complex of measures on protection of superficial and underground waters - (including transboundary) from an exhaustion, pollution and a contamination which solves the major economic, ecological and social tasks.

Introduction of complex management by land-water resources, water protection technologies in irrigated agriculture and carrying out of actions on protection of superficial and underground waters from pollution will allow to warn the further salinity of the land, to lower a mineralization of water in water sources and to provide access of the population of the country to high quality potable water.

Irrigated agriculture consumes more than 90 % of all water resources used in Turkmenistan, therefore the further development of it is possible only due to economy of irrigating water on delivery to its consumer, and also formations of structure of areas under crops in view of accommodation in it of less moistureloving cultures.

Bright example for this is realization in the country of the program "Grain", in conformity from which for last 10 years for manufacture of grain crops it has been entered into an agricultural revolution about 500 thousand hect. without increase in a water-fence from sources of an irrigation.

The further introduction in an agricultural production of less moistureloving cultures and expansion of selection work on removing of drought - and salt sustainable grades is provided.

Increase of culture of irrigated agriculture and productivity of agricultural crops maintenance of fertility of land at a high level are possible at carrying out of a complex agrotechnical and agromeliarated actions.

For increase of stability of the land, prevention of influence of water and wind erosion and data up to a minimum of their displays realization of antierosion actions, introduction of technology of development of the deserted grounds, restoration degradated forest-pasturable lands and

watering pastures on the area of 14,5 million hect. with application of alternative methods (construction of waterpipes, chinks, mine wells, water-modular platforms etc.) is necessary.

From the moment of finding of independence by Turkmenistan in the country conducts a purposeful and effective policy on maintenance of the population with qualitative potable water. Creation of a complex of desalters of sea water in Turkmenbashi, Khazar and Garabogaz, total productivity of 15,5 thousand m3 / day, a complex of water-intaking constructions and water-transfer Yaskhan-Balkanabad, productivity of 70 thousand the m3 /day, centralized water supply of Dashoguz velayat - 200 thousand m3/day and water-purifying constructions in Turkmenabad - 100 thousand m 3/day.

The most part of territory of Turkmenistan is located in a zone of deserts with sharply continental climate described in high temperatures of air during the summer period and a minimum quantity of deposits in this connection the main volume of water resources is used on an irrigation of agriculture cultures.

Irrigated agriculture is accompanied always with a collateral product - collector - drainage water (CDW).

At the present stage the total amount of the collector-drainage waters formed on the irrigated grounds of Turkmenistan, is estimated in 6.0 km3, that makes 20-25 % of volume of a water-fence from sources for these needs and corresponds to a modern level of an agricultural production. With account of the CDW transported from territory of Uzbekistan, total amount CDW makes more than 11,0 км3.

Now, in each velayat of Turkmenistan there are independent collector-drainage systems which remove the CDW for limits of a cultural zone in between barchan downturn of desert Kara Kum or dump them in the river Amu Darya.

So, in Lebap velayat most part of the CDW is dumped in the river Amu Darya, and their insignificant part is allocated in natural downturn for limits of a cultural zone. Dumps of the CDW in the river Amu Darya reduce quality of amudarya waters on the average and the bottom watercourse, raising their mineralization up to 1,1 - 1.44 g/l, against 0,6 - 0,9 g/l in headwaters.

The Collector-drainage waters collected from the grounds Maryiysk,

Akhalsk and Balkan velayats and dumped in natural downturn Karakum sand, flooding on the way of the area of deserted pastures, putting out of action wells, water-combined teams takirs.

Drainage waters collected in natural downturn under influence of high temperature intensively evaporate, owing to what their mineralization sharply raise and become not suitable for economic use that results in degradation of ground, disappearance of deserted vegetation.

On special position is Dashoguz velayat where more than 65 % of annual drains of the CDW transborted through territory of velayat are formed in territory Khorezm velayat Republic Uzbekistan and transit on systems of Ozyorniy and Daryaliks the main collectors is dumped in Sarikamish hollow where it was formed drainless reservoir.

Last years, in connection with intensive development of the new irrigated grounds, significant growth of annual drains of the CDW is marked.

Simultaneously it is necessary to note sharp increase in charges assigned to the CDW Ozyorniy and Daryakik collectors during the washing and preseeding periods of year. Actual charges of drainage waters during these periods on border of Turkmenistan reach by the Ozyorniy collector 178m3/sec. and by Daryalyk - 128 m3 /sec, that on 96 m^3/sec exceeds projected parameters of these collectors.

The miss of superdesign charges in particular in a lower reaches of Ozyorniy and Daryalik collectors results in intensive washout channels, to destruction of existing bridges, gas mains, electric transmission lines, communication lines and water-carrying constructions, flooding of existing system of a drainage, sharp deterioration of a meliorative condition of the irrigated grounds and pastures, causing thus significant ecological and economic damage to Dashoguz velayat of Turkmenistan.

The largest project in Turkmenistan which realization is already started, is the unprecedented construction in world practice of Turkmen lake of the Golden Age.

Accepted by the President of Turkmenistan the decision on creation of this man-made sea, will give rise to an embodiment during a life of the grandiose program of transformation of our ground and decisions of many social and economic problems. This object is called to become the

important factor of an intensification of converting processes in an agriculture, improvements of ecosystem the countries, and also becomes the trailblazer in the Central - Asian region in sphere of modern irrigated agriculture.

Cost of realization of the project is estimated in 4,0 - 5,0 billion US dollars.

Designing and construction of Turkmen lake is conducted by own forces and means of Turkmenistan.

Realization of the given project will allow to solve a number of the major economic, ecological and social tasks, to change desert. Numerous local dead lakes with the bitter and salty water, formed in particular will for ever disappear as a result of dump of drainage waters in downturn of a relief in desert. The organized removal of collector-drainage waters from irrigated territories will improve, thus will solve problems connected with bogging and salinity of the grounds.

In a zone of the main collectors and the main inputs, by the general extent more than 2,0 thousand km are formed watered zones on which will roughly develop deserted wooden-bushed and grassy vegetation owing to what fodder efficiency of pastures will considerably improve. As it begins possible in a zone of collectors, both inputs and cultivation salt sustainable agricultural crops for needs of local population.

For last 30-35 years research establishments of Turkmenistan investigate various aspects of use of the CDW as additional sources of an irrigation of agricultural crops (a cotton, rice, corn, millet, etc.).

Application of the CDW with a mineralization 3-4 g/l has allowed to receive in various areas of the country a crop of agricultural crops of green weight in the following limits: corn - 210-457 c/hect., jugari - 197-720, a Sudanese grass - 207-707, sunflower - 793 c/hect., rice (grain) - 17-28 c/hect. The specified crops only are lower than the crops received at watering by river water 5-10 %.

Use of mineralized drainage waters on an irrigation will allow to fill deficiency of irrigating water that will promote additional expansion of areas under crops under agricultural crops, to improvement of meliorative conditions, increase in manufacture of rice and forage crops for animal industries of the country.

Besides, at use of the CDW (2-5 g/l) for an irrigation of natural

vegetation (ilak, chopan-telpek, the camel prickle, shor-chair, etc.) on pastures productivity of its dry biomass has increased more than twice (from 31 up to 63 c/hect.).

In the main collectors and in the Most Turkmen lake the fish culture will develop, conditions for a stop and rest of birds of passage will be created.

And, at last, the water collected in Turkmen lake, is a potential source of water for secondary use after clearing and staling.

Last years a number of perspective methods of clearing of collector-drainage and sewage is considered. Among them the greatest interest represents studying ability of the maximum water plants to absorb from water organic substances, mineral oil, to detain suspensions, to take biogenic elements, heavy metals, phenols, pesticides and radioactive substances. Therefore such thrickets of the maximum water plants are even more often used as biofilters in sediment bowls and ponds, channels and is artificial the created landings, them began to name "bioplateau".

Among the supreme water plants the most perspective for water treating are: a reed ordinary, reed - mace, a cane lake, hyacinths water, hornwort shipped and others. At cross-section to a direction of a stream of the polluted waters to planting by strips of a reed and reed-mace the best results on water treating are received.

Application of a method "bioplateau" for clearing polluted collector-drainage and sewage is the most non-polluting and economically cheap in comparison with other methods. For this reason, in development of the feasibility report on the project of lake Karakum to this method it is preferred and in many "sleeves" of a unifying collector the system "bioplateau" is stipulated.

It is necessary to note and such positive aspect, as creation of system of collectors and the organized removal of drainage-waste waters. As you know because of freshet character of a hydrological mode of the rivers Murghab, Tedzhen and fine small rivers of a northeast slope of Kopet Dagh and absence on them of sufficient volumes of regulating capacities (water basins) sometimes on these water sources there are catastrophic high waters, with chaotic dump of freshet waters on deserted territory. The organized removal of these freshet waters which possess minimal salt, on systems of collectors in Turkmen lake renders positive influence

on quality of water in collectors and in the lake, flora and fauna of surrounding territory, biological efficiency of water-currents and lakes. And the most important these waste waters not will be useless spent for evaporation and a filtration, and will be directed to lake for accumulation and further secondary use.

Turkmenistan is in the center of the Euroasian continent and due to the geographical position and climatic features, the territory of our country has huge value for migrating kinds of birds which flying way reaches from the Arctic coast of the Western and Central Siberia up to Iran, Afghanistan, India and Africa. Within the limits of Turkmenistan at many kinds areas nests and winterings are blocked.

The started construction of Turkmen lake of the largest water construction with the area of 3460 km2 in a northwest part of Kara Kum with the main drainage collector, length in 720 kms, will create new favorable ecological and fodder conditions for birds of passage in area with nowadays limited water supply. Watering of an old channel Western Uzboy and crossing of sandy desert of the Central and East Kara Kum by the new collector channel will serve as a good reference point for birds of passage and promote occurrence of new nest places and winterings of such water-marsh birds, as ducks, geese, coot, cormorants, wood - cock etc. Being object of amateur hunting, these feathery will make a huge stock of a valuable product of game. With construction of Turkmen lake the new place of winterings largest in region natatorial birds will open. Besides watering the Central part of Kara Kum will favorably affect a condition of the some ungulates, in particular, Middle Asian gazelle, ustyurt mountain ram, a wild boar, and also an otter, a nutria, the muskrat, etc., promotes preservation and enrichment of a biodiversity of our country.

As natural capacity of Turkmen lake downturn Karashor is chosen.

Full realization of the project will allow:

- To collect in a uniform stream all dumps of the CDW from the irrigated grounds Lebapskogo, Mariyskogo, Akhal and Balkan velayats of Turkmenistan and to allocate in Turkmen lake;
- To return in agricultural turne more than 4060 km2 the grounds from mountains pastures, nowadays flooded;
- To lower on 2 m a water level in Ozyorniy and on 1,2 m in Daryalik

collectors that will provide a normal operating mode of drainage systems Dashoguzskogo velayat;

- To raise water-security and feed processing pastures on the area of 1,3 million hect.;
- Will lower threat of destructions of transport, gas, electric communications and communications of a communication facility in territory of Dashoguz velayat;
- To use capacities of Karashor and Zengibaba with a view of the further development of fishing in territory of Turkmenistan, with annual manufacture of a commodity fish up to 30,0 thousand tons;
- To improve a meliorative condition of the grounds on the area more than 2240,0 thousand hect.;
- To provide with work up to 50 thousand local workers and experts, that substantially will solve a problem of employment of the population in all velayats of the countries.

Summing up, it is possible to tell, that creation of Turkmen lake - a task for Turkmenistan more than actual. It will allow to increase considerably forever water stocks of the country for their secondary use by economic needs that will promote finally to the decision in the present and the future of a strategic task - to maintenance of food independence of our state put by the President of Turkmenistan Saparmurat Turkmenbashi.

Gone 10 years stage, is small historical term of time and everything is necessary to tell, that has been made for this period on the part of Fund only by a first step of teamwork of the countries of participants and I am confident, that the IFAS will develop and be updated henceforth, as in it implements collective work and reason of five states.

We and henceforth shall support actively activity of the IFAS and we shall take all from us dependent measures on performance planned for the period 2003-2010. Programs of concrete actions on improvement of ecological and social and economic conditions in Aral Sea basin (ASBP-2).

We count, that at performance of this Program purposeful use of an opportunity and the donor help is necessary, under aegis of the United Nations.

A.A. JALALOV,
Member of Board of IFAS,
The first deputy of Minister for rural and water
economy of Republic of Uzbekistan

THE ARAL CRISIS, PROBLEMS AND TASKS FOR THE FUTURE

Because of reduction of Aral Sea in twice and reduction of depth of the sea in six times for the short period, only 30 years, in the basin of Arala, on our eyes the present ecological tragedy, natural cataclysm was played, the Aral has stopped to be as the huge natural conditioner constraining cold air streams from the north and cooling air from the south. In a result tens of thousand people have lost a primary way of life the influence of which is tested on the millions people living in this region. Annually in channels of the rivers of Amu Darya and Syr-Darya is dumped of 33-35 kms of high mineralized and not cleared collector-drainage, industrial and municipal dumps.

For the last 40 years the process of desertification has captured more than 4 million hectares of grounds, thus to the most intensive influence the landscapes adjoining to deltas of the rivers of Amu Darya and Syr-Darya have undergone.

The main sources of pollution of atmospheric air of natural character are deserts Kara Kum and Kyzilkum, and also a dried up bottom of Aral Sea. Annually from 75 up to 125 million tons of salts is taken from Aral Sea basin and settles on the area of 1,5 - 2,0 million km, causing significant damage to close located agrarian regions. The most part of the population of irrigated areas of the Central Asia consumes water from the irrigational channels, containing various salts, the rests of fertilizers, pesticides, nitrates, excrement of pets and other agricultural waste products. Poor quality and deficiency of potable water is the direct or indirect reason of many illnesses of infectious and not infectious character.

Consequently an environmental problem of Aral Sea has caused deterioration of health of people caused by pollution of water and air, insufficiency of sources of water supply by a low level of sanitary,

a special threat of a problem lies on Priaral and adjoining to it areas. In an epicenter of ecological accident one of the highest parameters on territories of the CIS of children's and parent death rate, decrease in average life expectancy, diseases of tuberculosis; the anemia, dysfunction of a thyroid gland, disease of kidneys and a liver are distributed. Illnesses of blood progress, cancer diseases, an asthma and intimate insufficiency, in chest milk of women are found traces of pesticides. All this results in destruction of a genofund.

The created by Heads of the states of the Central Asia the International Fund for Saving the Aral Sea - became the main tool of collective influence on ecological and social and economic conditions in basin of Aral Sea.

Due to the vigorous activity of Heads of the states of the Central Asia, the Fund headed on a rotational basis has received wide recognition and support of the International Community. The accepted declarations within the framework of the International Fund for Saving the Aral Sea by the Nukus, Alma-ata, Tashkent and Ashkhabad statements of Heads of states of the Central Asia, the Program of basin of Aral Sea and other documents have put in pawn a basis for the decision of complicated questions on improvement of a water-economic and ecological situation in region.

Indisputable merit in work of our Fund is that was possible to draw to problem of aral an attention of World Community, the Governments of many countries of the world and a lot of the International institutes. We have shown, that a situation which we name the Aral crisis, represents threat not only to the states of the Central Asia, but it has already gone out for of its geographical borders and has got global scales and character and consequently to meet crisis is possible only by the joint, coordinated efforts of everyone to whom this problem concerns.

At support and participation of the World Bank, the Asian Bank of reconstruction and development, the European Union, Global Environmental Foundation, our Fund (IFAS), other International organizations, and also the separate countries of the World in our region a number of the projects is carried out directed on improvement of unsuccessful ecological conditions developed here today and pursue

the purpose mainally struggling against consequences of the Aral crisis.

Constrains their realization till now, in my opinion, that all depth of the Aral crisis remains for the present up to the end not understood though on this theme and many conferences, symposiums have been held, " round tables " and mainally it was possible to explain, that the Aral crisis has developed mainly because of the general deficiency of water resources which suffers the region Tsentralnoaziatsk from it sharply arid climate and which in connection with a fast growth of the population here and consequently growing requirements of water, more and more becomes aggravated, and it is a serious obstacle on a way of sustainable development of our countries.

Together with it should note, that some International experts, and including experts of the World Bank, till now yet do not recognize the fact that we live in conditions of deficiency of water resources. In opinion of these experts, deficiency of water with us is created as though is artificial, because of "excessive" development of the area of irrigation, and water resources " extremely prodigally we use and unproductively we lose ". But so can think only people, which have not studied specificity of system of a water management developed during existence, an irrigation and agriculture of region.

Also it is necessary to mean, that the most part of water which at us filters from irrigation canals or is dumped from fields of an irrigation, does not vanish irrevocably, and with a stream of underground waters comes back in water sources and lower on their current is used repeatedly. So this happens sometimes repeatedly, and a quality of water in a lower reaches of our rivers from it, certainly, worsens. On having watered goes as well a significant share of a collector-drainage drain which mixes up with water taken away of the rivers.

It does not mean at all, that we do not wish to be engaged in modernization of irrigation. Uzbekistan, for example, goes on this way, and the certain experience in this business at us is present, including application of the same drop watering, an irrigation overhead irrigation and uses of other progressive technologies. But it is necessary to mean, that total modernization of existing irrigating systems and technologies of watering at scales of development of the areas of an irrigation available at us will demand the big capital

investments estimated in billions of US dollars, to find which economy of our countries is not capable for now.

The attention on the part of the World Bank, the United Nations, and the countries of the European Community has helped to begin pilot projects on several directions on the basis of the inter-regional project "Water resources management and an environment in basin of Aral Sea".

For realization of concrete actions with a view of stabilization and improvement of ecological and social conditions the donor help as grants, credits, modern technologies and consulting is rather important.

For last years the Republic of Uzbekistan on construction of the main collectors, creation of the protective humidified systems and zones, reconstruction of the grounds, on objects of social protection of population of priaral and on other purposes directed on mitigation of a situation in region encloses significant means.

In a place with it, the analysis of realization of the Program testifies that the restrictive factor of default of some the important programs and projects in full is insufficiency of their financing. And the statement accepted in Dushanbe of the Declaration by Heads of the states of the Central Asia about transformation of IFAS in structure of the United Nations demanding its realization should serve wider attraction of the contribution of World Community in mitigation of the Aral tragedy.

The decisions accepted during a meeting of Heads of the states of the Central Asia in October 6, 2002 in Dushanbe are confirmed with adherence of the states of region not only on continuation of carried out works, but also in activization of efforts of saving the Aral spent by the International Fund.

The decision on development of new "programs on improvement of ecological and social - economic conditions in basin of Aral Sea for the period of 2003-2010" puts concrete actions before bodies of IFAS to analyze results and to determine tasks on prospect:

1. By the results of activity of Fund for 10 years, with reflection of a course or results of performance of the tasks assigned to it, in strict sequence, according to decisions by Heads of the states of the Central

Asia in Kzil-Orda in March, 26, 1993 "About joint actions under the decision of a problem of Aral Sea and Priaral, for economic improvement and maintenance of social-economic development of Aral Sea" and in Ashkhabad on April, 9, 1999 on the authorized Position " About the International Fund for Saving the Aral Sea".

2. By analyses of the reasons of occurrence in water problems in the region determining the decision of main tasks:

The first - independently, from quantity of participants to reflect in ASBP-2 a position of principle for all actions, concerning to water - on use of water the historical right of peoples and territories is considered and admits limits or at a level of developed charges as a fundamental law. At intentions to enter a new condition, the initial beginning for negotiations is, actual use of water prior to the beginning of negotiations;

The second - the states of region, on the basis of the saved up International experience on division of transfrontal water resources and in view of historical experience of region, should concentrate attention to rational use of water resources and reduction of annual water-fences on irrigation;

The third - creation of the greatest possible cooperation of water institutes of region, with improvement of their teamwork;

The fourth - development of agricultural cooperation in region, profiling of the certain parts of region on separate directions of agriculture, for increase of efficiency of water use in region;

Fifth - the analysis of a modern condition and dynamic development of the natural environment of Aral Sea basin specifies the further aggravation of an ecological situation in this region. Problem of Aral and Priaral amplifies more and more, it as a chain reaction involves and exposes all new and new problems in region. These questions by their acuteness demand the prompt and immediate decision and should be priority till 2010 and further.

3. The precise review of the general ecological situation in Aral Sea basin, with allocation of a condition of the sea and Priaral, having described factors of negative influence of ecological crisis on other regions of basin, down to a zone of formation of water resources: on the irrigated grounds, water objects, woods, for a social life and

economy, with a statement of principal causes generating these factors. Projects of ASBP-2 should be divided on prime - projects solving problems being raised by consequence of ecological crisis of Aral Sea and accompanying - projects directed on the decision of questions of separate territories of the countries of the Central Asia within the framework of strategy on basin.

4. Definition of the purpose and a task of Fund starting with developed conditions in view of the decision of Board of IFAS from March, 12, 1998 about strategy of rational use of water resources of acceptance of concrete measures of the irrational charges of water directed on reduction and to annual reduction of water-fences on 0,2 %, directing the saved water resources on improvement of ecological conditions of water objects and deltas of the rivers, and also ecological flow augmentation across Amu Darya and Syr-Darya, water areas of Aral Sea providing preservation and flooding deltoid lakes in shallow years.

5. Maintenance with the information from a high-mountainous part of basins of the rivers for use of the developed methods of forecasts of a drain of the rivers.

6. Maintenance of contract designs with character of continuity with a view of, rational and an effective utilization of the accumulated material and the turned out experience during realization of regional projects.

7. Differentiation of regional projects and technical offers on stages of their realization and influence:

а) Till 2010;

б) Prospect.

Carrying out of actions this year - the 10-year anniversary of Fund, and also preparation of the International Forum on pure water should serve as successful preparation "Programs of concrete actions on improvement of ecological and social and economic conditions in Aral Sea basin for the period of 2003-2010".

S. ASLOV,
Chairman of the Executive
Committee of IFAS

IFAS: PROSPECTS AND NEW TASKS

Degradation of Aral Sea is one of the planetary environmental problems of modernity .

As you know, till 1960 the area of water surface of Aral Sea made about 66000 km^2, and volume of water - more than 1000 km^3. Annually in this water object acted about 120 km^3 of water as a drain of the rivers of Amudarya and Syr-Darya, 6 km^3 - as deposits and about 5 km^3 - as a drain of underground and subsoil waters. Annually the sea as evaporations lost up to 63 km3. At such balance the water level in Aral Sea was on a mark of 50-53 m above sea level (by the system of Baltic sea)

From 1960 up to 1990 in this region there were carried out scale programs of development of the new grounds, as a result of which the area of the irrigated grounds was doubled, having reached 8 million hect., and the volume of water intake has increased from 63 up to 117 km^3 in one year. As a result of it by 1990 the drain of water to Aral Sea was sharply reduced till 9-12 km^3 in one year, and now even it is much less than it. The water level in the sea was lowered on 17 m, and the area of a water surface cut by double. Now the level of Aral Sea is on a mark of 33 m by the sea level

Because of intensive development of the new grounds the region has faced serious environmental problems, from which the main are the increase in level of mineralization of water and salinity of land. About one third of irrigated lands are Salted already, thus productivity of agricultural land has fallen to the same size. In the lawer reaches current of both rivers by a serious problem there was a quality of potable water. By some calculations, the economic losses connected to a mineralization of water and salinity of land, reach the impressive sum of some billions dollars in one year. Besides water-marshy lands of delta of the rivers threatens the desertification that can have the most serious consequences for ability to live of the person,

condition of wildlife and a biological variety .

The standard of living and incomes of more than 4 million people living in delta of the rivers Amudarya and Syr-Darya have sharply decreased. Irrational practice of use of water and ground resources in the past and the present has led to the increase in a level of a mineralization of water resources and salinity of land, disappearance of stale-water lakes and many kinds of stale-water flora and fauna, occurrence of salt storms, desertification, deterioration of a state of health of the population, quality of potable water, loss of fishing places.

In territory of the upper reservoir is lost about 50 percent of forest cover, erosion of land accepts the menacing sizes.

With the purpose of suspension and prevention of aforesaid consequences of the Aral crisis, Heads of the Central Asia states in 1993 create the International Fund for Saving the Aral Sea (IFAS). Final organizational structure of the IFAS has been accepted by Heads of the states on February, 28, 1997. In this period the Heads of the states repeatedly met and have accepted a number of decisions on the current and perspective tasks of Fund; have been accepted Nukus (1995), Almaty (1997), Ashgabad (1999) and Dushanbe (2002) Declarations on problems of Aral Sea basin.

The primary goal of the International Fund for Saving the Aral Sea was attraction of means of five Central Asia states and the International Community - donors for financing the Program of Aral Sea basin (ASBP). Important task of the IFAS was also to lead up to the International public of the information on catastrophic position of Aral Sea and about organization of financing of the ASBP. Chairman of Fund by a rotational principle appoints one of heads of five Central Asia states. Chairmen of the IFAS were Kazakhstan (1994-1996), Uzbekistan (1997-1999), Turkmenistan (1999-2002). From 2002 till 2005 Chairman of Fund is Tajikistan.

According to the " Regulations about the IFAS " annually due to the Governments of region, from the budget of the states are allocated: by Republic of Kazakhstan, Turkmenistan and Republic of Uzbekistan - 0,3 %; by Kyrgyz Republic and Republic of Tajikistan - 0,1 %.

These means are allocated for the concrete projects directed on improvement of social-economic and ecological conditions in Aral

Sea basin. Besides annually in the countries of region within the framework of the program of social-economic development, protection of health of the population, preservation of the environment and other republican and national actions the huge means directed on prevention of the negative phenomena, included in problems of the Aral crisis, are allocated.

The Program of Aral Sea Basin (ASBP)

The program of Aral Sea basin (ASBP) is accepted by Heads of the states of Aral Sea basin in 1994. The primary goals of the given Program were:

- Stabilization of environment condition in Aral Sea basin;
- Restoration of broken ecology of Priaralye;
- Perfection of management methods of water and ground resources of basin;
- Creation of administrative structures of all levels for planning and realizations of actions of the Program.

In structure of the Program has come eight components on the basis of concepts of projects, some from them have been already enough not bad worked.

These projects were:

1.1 Regional strategy of water resources management.

1.2 Maintenance of stability of dams and water basins.

2.1 Hydrometeorological services.

2.2 Regional system of the ecological information.

3.1 Quality management of waters

4.1 Restoration of water-marshy lands

4.2 Restoration of northern part of Aral Sea

4.3 Ecological researches in Aral Sea basin

4.4 Project on regulation of a drain of the river Syr-Darya and development of delta

5.1 Pure water, sanitary, health - Uzbekistan

5.2 Pure water, sanitary, health - Turkmenistan

5.3 Pure water, sanitary, health - Kazakhstan

5.4 Intermediate term water supply

6. The complex project of management water and ground

Resources in territory of the upper reservoir

7. Operative water resources management

8. Development of potential

Except for the means allocated on the programm from the budget of the states, also from International organizations as grants, it has been allocated 47,7 million US dollars and 278 million dollars of various loans.

It is necessary to note, that the means allocated due to donors, in most cases have been spent for actions of scientifically research character.

The Water resources and environment management Project (WEMP)

The largest regional project is the Water resources and Environment Management Project(WEMP), carried out due to means GEF, the governments of Netherlands and Sweden. The general budget of the project makes 21,5 million US dollars, including 4,1 million dollars - due to the countries of the Central Asia.

The project will consist of six components:

Component A Water resources and salinity management

Component B Public awareness

Component C Dam safety and reservoirs Management

Component D Transboundary water Monitoring

Component E Restoration of wettlands

Component F Support of management by the project

Under the given program a number of concrete actions is executed, works on four components within the framework of which pilot projects on reduction a safe condition of ten dams are carried out now are completed, on 37 hydrological posts the measuring equipment is established, work on informing the public is advanced, actions on improvement of water-marsh lands were carried out by the example of lake Sudochye. By present time work on finishing and the coordination of the main component, i.e. development of strategy of water use and management of salts at national and regional levels, is conducted.

But the realized projects could not affect radically the decision of all problems of Aral Sea basin and suspension of ecological crisis in region. Therefore the Heads of the states at a meeting in Dushanbe on October, 6, 2002 have put before structures of Fund new tasks in overcoming crisis of Aral Sea basin.

Giving a close attention and making the certain efforts in overcoming ecological and social-economic crisis in Aral Sea basin, the Heads of the states of the Central Asia count a prime measure maintenance of the population with pure potable water.

It would be desirable to pay your attention to some new initiatives of Heads of the states of the Central Asia on problems of Aral Sea basin which have been considered at a meeting of Heads of the states at the end of the last year.

It is necessary to note, that Heads of the states approve " the Main directions of the Program of concrete actions on improvement of ecological social-economic conditions in Aral Sea basin for the period 2003-2010 ". These directions of the Program of Aral Sea basin also have been submitted in the beginning of December of the last year at a meeting of donors on problems of Aral Sea basin. By results of this meeting has been prepared compact disk, where statements of representatives of 5 states are included, technical offers under projects and programs, 3 digital videofilms on problems of the Aral crisis .

Now Executive Committee of the IFAS with participation of five states and the regional organizations (ICWC, ICSD, REC) completes development of the given Program. For this purpose has been solved to break all main directions into 4 main tasks:

1. Water-economic;
2. Social and economic;
3. Ecological and
4. Monitoring the natural environment.

The final version of the Program of ASBP - 2 was discussed at coordination meeting of representatives of all states and the regional organizations which has taken place in the middle of June of the current year. Also it was discussed at a meeting of donors on June, 20-21 in Dushanbe. Useful comments have been stated on the part of donors who have been directed to all states for their further account and

acceptance to action. The program will affirm on next anniversary board meeting of the IFAS. The authorized Program will be shown by representatives of Fund during carrying out of the International Forum of fresh water in Dushanbe.

The program of Aral Sea basin for the period till 2010 begins with the decision of the mainest water-economic tasks, that is:

- Development of the coordinated mechanisms of complex water resources management of Aral Sea basin (here, first of all, is present in view of development and acceptance of a package of agreements on basins of the rivers Syr-Darya and Amudarya);
- Rehabilitation of water-economic objects and improvement of use of water and ground resources.

Except for these questions the Program also includes other vital questions, such as:

- Creation of environment monitoring;
- Struggle against acts of nature;
- Assistance to the decision of social problems of region;
- Strengthening material and legal base of the Interstate organizations;
- Development and realization regional and national programs of nature protection actions in a zone of formation of a drain;
- Development and realization regional and national programs on rational consumption of water in branches of economy of the Central Asia countries;
- Development and realization of the International program of sanitary - ecological improvement of settlements and natural ecosystem of Priaralye;
- Development of the International program of restoration of ecological stability and biological efficiency;
- Development of the Concept on sustainable development in Aral Sea basin;
- The regional program of actions on struggle against desertification;
- Development of wettlands in a lower reaches of the rivers Amudarya and Syr-Darya;
- Rationalization of use of mineralized and collector-drainage waters.

Apparently from the aforesaid, the problem of crisis of Aral Sea covers all questions of an environment and ability to live of the population of region. Realization of the given Program demands huge forces and means not only the countries of region, but also the World Community as it has already been told, being in the center of the Euroasian continent, problem of Aral already becomes menacing for the future not only Central - Asian region, but also all Euroasian continent.

With the purpose of activization of actions on overcoming the Aral crisis the Heads of the states of the Central Asia in Dushanbe Declaration from October, 6, 2002 have declared necessity of creation of the special Commission of the United Nations responsible for coordination of activity of the International organizations and countries - donors under the decision of problems of Aral Sea basin.

Now by the organizations of IFAS start negotiations with structures of the United Nations. In particular, work with University of the World of the United Nations about carrying out of a regional Forum is conducted with the purpose of studying potential of offers on giving to structures of Aral Sea basin of the organization status of the United Nations system . Up to the end of the current year on the given question, probably, will be found out final positions of the countries of region, including Afghanistan, then will begin official negotiations with structures of the United Nations on creation of corresponding structures. Would be rather useful during the decision of the given question to involve the saved up International experience on all other basins of the International rivers.

In the current year the 10-anniversary of the International Fund for Saving the Aral Sea is celebrating. By the President of the IFAS - the President of Republic of Tajikistan Emomali Rakhmonov authorizes the Program of organizational actions including some questions - from carrying out of various meetings, conferences, up to humanitarian actions and the organization of Expedition " Aral-2003". Now this Program is realized by all structural divisions of the IFAS. But many questions in this Program demand active participation of the International organizations, countries - donors and partners. In particular, would like to note, that during one year carrying out of Expedition " Aral-2003" is planned with the purpose of a real

estimation of hydrological, water-economic, ecological and social-economic conditions in Aral Sea basin. By results of the given Expedition the various printed matter will be issued and discussions with scientists, experts and the public are organized.

Besides, on Dushanbe Forum with help of the IFAS demonstration of plans, programs and achievements of science-technology on rational use of natural resources and improvement of a social standard of living of the countries of region is planned. In the exhibition organized at the Forum " the World of water ", the countries of region will show all achievements on problems of maintenance with pure potable water and rational use of water resources of region. Some International organizations assist in preparation of the given question.The representations of these organizations are placed in Dushanbe.

The International organizations, countries - donors and our partners - everyone who likes the future of our planet and to whom it is not indifferent destinies of the Central - Asian region where lives about 50 million population and which today faces with overcoming one of planetary problems - degradation of Aral Sea - should render all assistance to our region in stay and mitigation of this crisis.

The Aral crisis has arisen on the basis of the unreasonable relation to water resources, and we count, that it will be an example for acceptance of concrete measures in frameworks of Kioto World Forum of water, Dushanbe International Forum of fresh water and other actions devoted to the International year of fresh Water.

Executive Committee of the IFAS will do the utmost for practical realization of the problems connected to improvement of social-economic and ecological conditions in our region, in adjacent regions and subregions which will be developed at the given World Forum and in other actions planned within the framework of the International year of Water.

A.D. Ryabtsev,
Chairman of Committee on water
resources MAF KR

STRENGTHENING OF INTERSTATE COOPERATION - A WAY OF THE DECISION OF PROBLEMS OF PRIARALYE

"The Aral crisis is most a vivid example of an environmental problem with serious socially - economic consequences from which it is direct or indirectly connect all states of the Central Asia. The crisis situation caused by drying of Aral Sea, has developed as a result of an agrarian orientation of economy on the basis of development of irrigated agriculture and growth of volumes of irrevocable water consumption on an irrigation". Fourfold conference of ministers " the Environment for Europe ". The states of the Central Asia: the Estimation of an environment, Denmark, Arhus, June, 1998."

For the period of tool supervision (1911-1960rr) the size of interannual fluctuations of a level of Aral Sea did not exceed 1 meter and were close to a mark of 53 m that was caused high intake - on the average 56 km^3.

Because of excessive development of irrigated agriculture in basin, since 1961, the sea level has decreased on 17 meters, the area of a surface (mirror) was reduced more than to 50 % (from 6700 up to 3000 kms^2) and divided into some independent reservoirs.

In a result in region there were negative changes of physiographical, ecological and social economic conditions. The sea has practically lost the fishfarming culture, transport, recreational value, unique landscape zones of delta and bottomlands of the rivers of Syr-Darya degraded; climatic conditions in adjoining to sea areas have worsened; sanitary-and-epidemiologic conditions was sharpened, have amplified dusty - salt carrying out in adjoining territory, etc. Deltas of the rivers have lost regulating value, both for a natural complex of a lower reaches, and for Aral Sea. Process of desertification has captured territory in 2 million hect. from which were annually annually taken out up to 6 million tons of salt on distance in 500 and more kms.

Pressing question in region became the problem of drinking water supply caused by a bad technical condition of existing systems of water supply and pollution of water sources.

In the Kazakhstan part of basin the special acuteness from consequences of the Aral ecological crisis was felt by the population of Kzil-Orda, Southern - Kazakhstan and in part separate areas of the Aktyubinsk and Karaganda regions.

There was obvious a necessity of acceptance of urgent measures on stabilization of a situation.

In 1992 water-economic bodies of the states of the Central Asia have signed the Agreement between Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan about cooperation in sphere of a joint management of use and protection of water resources of Interstate sources. The sides have taken up obligations on maintenance of strict observance of the coordinated order and the established rules of use of water resources, the joint decision of environmental problems, an establishment of volumes of the sanitary flow augmentations with the account hydraulicity. For acceptance of the coordinated decisions Interstate Coordination water-economic Commission (ICWC) has been created.

In March 1993г. on Kzil-Orda conference on problems of Aral the Head of the states of the Central Asia have made decisions on creation of Interstate Council on problems of Aral Sea basin and the International Fund on rescue Aral (IFAS) for association of efforts on stabilization ecological and socially - economic conditions in Aral Sea basin. The arrangement on creation of Executive Committee of the IFAS with branches has been achieved. In structure of the IFAS also has been included earlier formed ICWC.

In January, 1994 in Nukus the Head of the central Asian states have approved substantive provisions of the Concept of an exit from the Aral crisis and have ratified the Program of concrete actions on improvement of ecological conditions in Aral Sea basin and Priaralye (ASBP-1) the nearest 3-5 years in view of prospects of social and economic development of region. ASBP-1 included actions on reduction in negative consequences and degradations of an environment, and also development of sustainable strategy of water

resources management.

Kazakhstan, strictly adhering to performance of the obligations and decisions of the IFAS, for 1993-2002 in frameworks of the ASBP - 1 due to own payments in the Kazakhstan part of Aral Sea basin realized more than 20 projects for a total sum 3,64 million US dollars. These means have been directed on:

- Maintenance of the population with pure potable water by construction new and reconstruction of existing waterpipes, staling of local minerilized underground waters and delivery of autowater carriers;
- Installation of mini boiler-houses at schools and children's preschool establishments, deliveries of machines of first aid, rendering of material aid and supply by medical devices needy families.

Only in Kzil-Orda area within the framework of the realization authorized by the Government of Kazakhstan of the branch program "Potable water", in 60 before water-poor settlements construction of local waterpipes is stipulated. In areas with primary distribution of the minerilized underground waters is supposed the construction of staling installations . The complex maintenance-regenerative works on existing systems of water supply of is planned Kzil-Orda city, construction of new and reconstruction of working waterpipes by extent about 2000 kms. Within the framework of realization of the Program construction of Aralo-Saribulak, Jidelin group waterpipes proceeds. Construction of the Oktyabr group waterpipe is planned.

In the Southern - Kazakhstan area during performance of the Program reconstruction of water supply systems in the cities of Shymkent, Shardara, Sarigach, Turkestan and Chulakurgan is provided. Construction of waterpipes for drinking water supply will be completed in Shaulder and Aris. As a whole in this area will be constructed and reconstructed 524 kms of waterpipes with scope of 126 settlements .

On performance of the Program in 2002 from the republican budget it has been allocated 282 million tenge to Kzil-Orda and 416 million tenge in Southern - Kazakhstan areas. In the current year these sums have made accordingly 687 and 841 million tenge.

One of the important directions of the decision of the Aral problem is economical and rational use of available water resources. So, experience of use of irrigation water by farmers of area Maktaaralskogo (Hungry steppe, Kazakhstan) where the irrigating norm gross on one hectare makes about 6.0 thousand m3 against 10-11 thousand m3, the close irrigated sites located in the Uzbek territory (the Hungry steppe, Uzbekistan) shows having huge reserve of economy of water. And, farmers of area Maktaaralskogo, being in a tail of channel Dostyk, receive irrigation water by a residual principle. But, constant searches of ways of economy of irrigation water, a high level agricultural technicians and a direction of financial assets on reconstruction of the irrigated grounds have allowed Kazakhstan people to receive last years higher crops of a cotton , than neighbours.

Alongside with the actions financed from republican and local budgets, the complex of works is carried out due to grants and loans of the International financial institutions. So, the Committee on water resources is the manager of the several large projects implemented by the International help. Among them especially it is necessary to note the following.

The project " Water supply, sanitary and public health services " (Water supply of the cities of Aralsk, Kazalinsk and Novokazalinsk). First-order financing of the project in cost 18.95 million USA dollars, is carried out due to means of the Kuwaiti fund of the Arabian economic development - 13.65 million US dollars and the government of Germany-5.3 million US dollars. The purpose of the project: improvement of water supply of the cities of Aralsk, Kazalinsk and Novokazalinsk by increase of efficiency of existing system of water supply, expansion of a distributive network in cities.

The project " Regulation of a channel of the river Syr-Darya and preservation of northern part of Aral Sea (the Phase 1) ". The purpose of the project - improvement of a social and economic and ecological situation in region. The budget of the project - 85,79 million US dollars, including cofinancing from the republican budget - 21,29 million US dollars. Validity of the loan is 2002-2006. Within the framework of the project are planned to carry out the following works: reconstruction of hydroconstructions Aytek and Aklak; construction

of a dam on Northern Aral Sea; construction of anti-waterflow dams and protections; rehabilitation of water-elevating dams (Kzil-Orda and Kazalin); rehabilitation of Shardar dam.

In the current year civil work on two components of the project are started: "Construction of a dam of Northern Aral Sea and hydrounit Aklak" and "Reconstruction of a complex of hydroconstruction Aytek", which end is stipulated accordingly in 2005 and 2004. By the end of year is planned to start civil work on objects " Protection dams and a channel strightening works on the river Syr-Darya " and also "Rehabilitation of Kzil-Orda and Kazalin hydrounits ". On realization of these actions it is stipulated 3172 million tenge. On other components of the project are developed design - budget and tender documentation.

After end of civil work by 2006 throughput of a channel of the river Syr-Darya will be increased, the water level in Northern Aral Sea will be raised up to 42 m, the drained bottom of the sea will be covered with a suface (mirror) of water the area 870 км^2, the volume of water in Northern Aral Sea will increase on 11,5 km3, the mineralization of sea water up to 17 g/l and less will decrease, favorable conditions for fishfarming, etc. will be created.

However alongside with the carried out and planned actions on improvement of a social and economic-ecological situation in region, there are some more unresolved problems, including Interstate. Among them it is necessary to note the following especially.

Interstate water-division. In long-term prospect it is the main problem. The essence of it consists that the states Aral Sea basin located in the top and average current of the rivers, being based on proceeding growth of a population and requirements of economy, consider expedient to reconsider the documents accepted earlier at the Allied level. The problem can become aggravated in connection with change of political conditions in region by the requirements of Afghanistan of the share of water resources. By the way, about the right of the country to a share of a drain of river Amu Darya the representative of Afghanistan has already declared on past in Japan in March of the current year III World Water Forum. The Kazakhstan side in this question offers to guided by earlier accepted documents according to

which mid-annual inflow of water to Shardar water basin should make 12 km3 with admitted reduction in shallow years at guaranteed 90 % of security - up to 10 km3.

Construction of new water-economic objects. A serious problem became a question of performance by the states before taken up obligations, in particular, concerning construction in basins transboundary rivers of new hydraulic engineering constructions. So, construction of Aranay water basin carried out by Uzbekistan already has led in the current year to occurrence of intense water-economic conditions in a lower reaches of the river Syr-Darya.

Inconsistency of positions of the states on creation of the IWPC. At session of the Mejgossovet of the Central Atomic Power Station, which was taken place on July, 24, 1997 in Cholpan-Ata, has been decided to create International water-power Consortium (IWPC). Position about the IWPC has been authorized by the Decision of Council Prime-minister - Ministers of Kazakhstan, Kyrgyzstan and Uzbekistan on March, 17, 1998. However, at session of a Commission of experts there were disagreements in definition of the purposes and tasks of the Consortium.

During official visit of the President of Republic Kazakhstan of Nazarbaev N.A. to the Kyrgyz Republic the arrangement on creation of 2 -sided the Kazakh-Kyrgyz consortium which was offered to create for joint the construction of Kambartin HYDROELECTRIC POWER STATION - 2 on July, 23-24, 2001 has been achieved.

The Kazakhstan Side had been prepared the draft agreement between the Governments of Kazakhstan and the Kyrgyz Republic about creation of the IWPC, but at session of experts there was recognized necessity of attraction for structure of the IWPC other states of Syr-Darya river basin.

Necessity of perfection of existing normative-legal base of Interstate interaction. The legislative base of the states of basin in the field of use of water resources considerably differs, that in the certain degree is connected to various rates of realization of market transformations. Their rapproachement, including regarding approach the International rules of law is necessary. Otherwise, existing problems can become complicated. An example can be, accepted in Jogorku

Kenesh the Kyrgyz Republic, the Law " About Interstate use of water objects, water resources and water-economic constructions of the Kyrgyz Republic ".

In the Central - Asian region only Kazakhstan has joined to Helsinki " Conventions on protection and use of transboundary water-currents and the International lakes ".

Prolongation or revision of the Agreement from March, 17 1992. It is necessary to speed up process of prolongation or revision of the Agreement between Kazakhstan, Kyrgyzstan and Uzbekistan about use of water-power resources of a river basin of Syr-Darya signed on March, 17, 1998 in Bishkek.

Information interchange. For improvement of process of an exchange by the operative and regime information it is necessary to work a question of signing of the Agreement "About information interchange and formation national, basin and regional databanks of complex use and protection transboundary water resources of Aral Sea basin".

Is pleasant to note, that practically all listed problems of Interstate interaction of the countries of the Central Asia on questions of rational use and protection of water resources have found reflection in the project of the Program of concrete actions on improvement of ecological and social economic conditions in Aral Sea basin for the period 2003 - 2010 (ASBP - 2) which main directions have been approved by Heads of the states of the Central Asia at summit in Dushanbe in October, 5-6, 2002.

On taken place on June, 9-12 the current year in Dushanbe Coordination meeting of experts on preparation of project ASBP-2 the Register of regional projects and technical offers across the Central Asia which has been considered and approved on June, 20-21 in Dushanbe at a meeting of donors has been assumed as a basis.

Among the actions included in ASBP-2, especially it is necessary to note the following.

Projects of agreements and Rules of water resources management of basin of river Syr-Darya in view of interests of all consumers and long-term regulation of a drain. As a result of performance of the project it is expected, that will be produced main principles of a joint

management by water resources of Syr-Darya, the frame Agreement 1998 about use of water-power resources of the Narin-Syr-Darya cascade of HYDROELECTRIC POWER STATION is advanced, there are produced norms of an ecological drain of Syr-Darya in view of needs of Northern part of Priaralye and Aral Sea, and also the Rule of water resources management of river basin of Syr-Darya.

Development of agreements on the common aspects of water resources management in Aral Sea basin. The project provides preparation of a package of agreements on perfection of organizational structure of divisionsof the ICWC, formation of regional and national information systems, quality management of water transboundary rivers.

Development of separate positions to strategy of use and protection of water resources: economic mechanisms of management transboundary resources and the FEASIBILITY REPORT of creation of a water-power consortium; models and databases. The project will allow to develop economic mechanisms of management in complex hydrounits of Interstate value, FEASIBILITY REPORT IWPC, system of models for the decision of a complex of tasks of regional and national strategy, recommendations under scripts of development of the countries WEC of region.

Definition of norm ecological flow augmentation and economic capacity water ecosystem of Aral Sea basin. The purpose of the project to define economic capacity of ecosystem for maintenance in their optimum volume of water.

Development of the drained part of Aral Sea. For mitigation of ecological intensity in Priaralye creation of strips of protective wood plantings on the area of 240 thousand hect. the drained part of Aral Sea is supposed.

Development and realization of projects of the water-savings. The purpose - development of programs of the water-savings and introduction advanced water protection technologies. The structure of works assumes creation and support of WEB-sites of water branch, a network of consulting services for increase of efficiency of use of the water / ground in irrigated agriculture.

Development of water-marsh lands in delta of Syr-Darya river. The purpose - creation of conditions for regulation of a water mode

of lake systems of delta. Realization of prime works in delta under the projected dam Raim, providing regulation of flooding of 6 thousand hect. haymakings, 35 thousand hect. lakes and 5 thousand hect. bogs is supposed.

Realization of these projects, and also complex of the actions stipulated by the state, branch and regional programs on Priaralye, finally will allow not only to stabilize, but also to improve ecological and social economic conditions in region.

A.A. NAZIROV,
Minister of Land improvements
and water Economy
of Republic of Tajikistan

REGIONAL COOPERATION AND PARTICIPATION OF TAJIKISTAN IN WATER RESOURCES MANAGEMENT IN THE CENTRAL ASIA

(Statement On III World Forum on water resources
on March, 16-23, 2003 Kyoto city, Japan)

Dear ladies and gentlemen!

We are grateful to the Japanese Government to all organizers of the Forum for the kind invitation and hearty welcome.

The ancient Tadjik proverb " Ob in hayot ast ", designates "Water is a life ", sayings of similar sense are available also other nations of the world.

Really, anything in the world cannot replace a drink of ordinary, wonderful, pure water. All alive cannot do without some water, therefore it is invaluable also a duty of everyone on a planet to protect this property.

Paying attention World Community on an acuteness of water problems, His excellency, the President of Republic Tajikistan dear by E.S.Rahmonov has noted:

"All should understand, that value of water is not less oil, gas, coal and other kinds of fuel and power resources for the sustainable future of the country and region of the Central Asia" with its original geographical, an environment and cultural traditions.

Therefore, in the most difficult first two years of independent development Tajikistan, Kazakhstan, Kyrgyzstan, Turkmenistan and Uzbekistan have entered into the Agreement in the field of a joint management, uses and protection of water resources of Interstate sources.

There is formed The International Fund for Saving the Aral Sea headed now by His excellency, the President of Republic Tajikistan

dear by E.S.Rahmonov.

Time has shown importance of presence in the Central - Asian region of this coordinating body in business of maintenance of dialogue, mutual understanding, the decision of practical tasks water-power exchange, development of initiatives, and also partnership within the framework of the World water Forum and other International organizations.

The economy of the countries of Central Asia with its developed water, power, transport and other infrastructure is involved in the International division of labour.

Creation of the Central - Asian Cooperation and the Euroasian Economic Community the certificate of that we aspire to be integrated by worthy, civilized way into Economic and to solve inside regional problems.

Taken place on October, 5-6, 2002 in capital of Tajikistan city Dushanbe summit of Heads of the States of the Central Asia has put forward the new initiative under the decision of problems of Aral Sea basin. Accepted in Dushanbe the Declaration and the authorized priority directions of the Program of concrete actions for 2003-2010, aim us, to the further coordination of mechanisms of water resources management, rehabilitation of water-economic objects, improvement of use of water and ground resources, struggle against desertification and acts of nature, performance of nature protection actions, strengthening of legal base of cooperation in a context of sustainable development and improvement of social and economic conditions of the population of Aral Sea basin.

Now there is a process of drawing up of Programs which will come to the end by June, 2003. There is a search of the potential donors, with which the first meeting has taken place in Dushanbe in December, 2002. We shall be sincerely glad to new meetings with donors for discussion of concrete, mutually advantageous offers.

For development of regional cooperation Tajikistan has clean water, recreational and hydropower resource base. Here it is located more than 60 % of glaciers of Aral Sea basin, it is formed annually 64km3 the river drain equal to 55 % of average-basin parameter. The energy potential is equal to 527 bill.kWt/h. of the electric power in

one year which while is mastered on 5 %.

The cost price 1 kWt/h. of this non-polluting energy does not exceed 0,4 cents USA.

There are opportunities with the least ecological damage and losses of a drain on a filtration to finish volume of water basins up to 67km^3, it will make 56 % annual average long term drain of Aral Sea basin. While these opportunities of regional scale are mastered on 23 %. These directions are rather favourable to accommodation of the capital, for increase water and power providing region. Minimal in region the need of Tajikistan in water (no more than 20 % on very much remote prospect) - a pledge of natural observance of interests of the countries of region in water resources.

The regional advisory Committee of the program of United Nations SPECA approves projects of end of construction of Roghun HYDROELECTRIC POWER STATION in Tajikistan with volume of 13,5 bill.m3 and construction of Kambaratin hydrounit in Kyrgyzstan. Their performance will allow to provide reliably with water, is especial in shallow years. And it is necessary to do it faster, as old water basins already in many respects flooded.

For investors there is created the system of advantages, tax and customs privileges. The economic mechanism of water-power use is operates. Tajikistan - the participant of the Viennese convention on the right of contracts of 1969 to which it has joined on November, 4, 1995. Therefore, the reflexivity of credits is guaranteed.

Positions of Tajikistan in water-power sphere is an observance of principles of International law, mutually advantageous cooperation, general ecological safety, creation of favorable conditions for investments.

From the Soviet epoch, non-uniform water-division which was aggravated by backwardness compensational mechanism already in new conditions, has got to us. In the water Concept the official position of Tajikistan on an establishment of new criteria of Interstate water-division and the economic mechanism of water use as bases of the decision of water-economic and ecological tasks in region is expressed.

Unfortunately, while in one of carried out International projects of separate purposeful consideration and development of these

questions was not.

Tajikistan now has the most minimal security in region the irrigated grounds per capita

(0,08 hect.) and the minimal water consumption (1300m3), access to pure potable water does not exceed 50 % of the population.

In Tajikistan special hopes are assigned by strategy of reduction of poverty to development of an irrigation, water-power engineering, economic - drinking water supply.

The decision of a food problem of Tajikistan will go on a way of increase of efficiency of use available 720 thousand hect. the irrigated grounds and gradual development of the rest suitable to an irrigation of 880 thousand hect. of the grounds.

Standard circuits of the decision of water problems in the world does not exist. We unfortunately while do not have recognized regional water strategy, it is developed within the framework of the Program of United Nations SPECA. Acceptance of this document will positively affect development of other major regional documents.

It is necessary to note positive value of the frame Agreement between the Governments of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan from March, 17, 1998 about use of water-power resources of a river basin Syr-Darya.

We are grateful to that the General Assembly of the United Nations has approved the initiative of Republic Tajikistan about the announcement of 2003 - Year of Fresh water and this initiative has found the wide response in the world. The person on a fine planet the Earth, our native house, worth a safe life with pure water.

I thank for your attention.

A.N. NURUSHEV,
Executive Director of the
EC IFAS (Almaty)

FOR SUSTAINABLE REGIONAL DEVELOPMENT (TO THE 10TH-ANNIVERSARY OF THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA)

One of the largest accidents of the present is drying up of Aral Sea. For the first time in a history of mankind on eyes of one generation from the surface of the Earth the whole sea disappears. There is it not because of natural cataclysms, but summary erroneous politics, focused on it is inadmissible excessive operation of natural resources of region.

Drying up of Aral Sea and process of desertification increasing in this connection in Priaralye get more and more wide scales and menacing character for the population living in this region. Ecological conditions here has reached a critical condition, the zone of accident extends all further from a lower reaches of Amu Darya and Syr-Darya. At such position if not to undertake concrete actions, crisis can capture adjoining to Aral Sea territories of other states and practically all basin. As a result of sharp reduction of inflow of water, the sea level, since 60th has fallen more than to 20 m, the area was reduced on 60, and volume - to 70 percent. From the date of the drained sea annually are taken out up to hundred millions tons of a hydrochloric dust which is carried in huge territory of the Euroasian continent, polluting surrounding environment.

The industrial technology gave powerful spur to economic development of the countries, but it has generated pollution and destruction of environment surrounding us. Loading on it amplifies, ever less becomes the areas which have been not mentioned by activity of the person .

Preservation, and in many cases the question is rescue of the person and the nature, becomes a global problem for the future development, and its decision demands essentially new approaches to regional and International cooperation. For achievements of the economic growth

trampling on laws of the nature, it is necessary to pay off with severe droughts and extensive flooding, powerful dust storms, the climatic changes of global scale accompanying with huge economic losses for a society. There has come time to give more attention to preservation of the nature when any development will not be connected to its destruction. The problem of mutual relation of the nature and mankind is complex and diverse, therefore it is very important to learn the art of coexisting with the nature, to aspire to its knowledge as well-being and the future of mankind depends on the careful relation to it.

Today any country in the world cannot stand away from danger of ecological threat as it has no national borders and its elimination demands effective International actions, close cooperation of all states in conditions of peaceful co-existence. It is necessary to make our development ecologically safe, and it should be an overall aim.

The reality of ecological crisis has threateningly hung not only above Asia and Africa, but also above the advanced regions of Europe and America. Huge amounts of industrial wastes are dumped in the rivers and reservoirs. Emissions in an atmosphere destroy its protective ozone cloud, acid rains destroy woods and lakes, wildlife, creating threat of the human life. Problems with which the mankind in this plan faces, find the menacing sizes. Danger of ecological accidents of technohygene character and not ordered economic activities simultaneously accrues. Consequences of such tragedies of a world scale as Chernobyl failure and the Aral accident have left an indelible trace on a surface of the Earth and will be reflected in a life and destinies of many generations. It is necessary to realize, that any measures will not give results if we shall concern still to the nature with the consumer purposes, ruthlessly maintaining its resources. Such problem which has captured all five states of the Central Asia and became the Aral ecological crisis recognized by the World Community as the largest in XX century accident, with the hardest consequences for the population of region, number from above 40 million people. Questions of reasonable use of the nature it should be considered by us not only from a position of progress, but also a survival.

On variety of the negative factors aggravating a social - ecological

situation in the Central Asia, the Aral crisis is unprecedented. Summarizing them, it is necessary to allocate the following problems, first of all.

First, - the economic developments of productive forces caused by discrepancy and available water resources. Introduction water saving technologies is carried out slowly as for realization of such programs significant investments are required. Therefore structural reorganization of productive forces due to restriction of the water-capacious manufacture, mainly irrigated agriculture, still has inertial character.

Second, the social-economic problems caused by high impurity of water and air basins of region. Degradation of an environment, an inadmissible level of pollution of basins of the rivers Syr-Darya and Amu Darya have led to growth of desease of the population.

Third, a complex of the political questions connected to a problem of water-division in region. The heaviest ecological and social-economic consequences drying of Aral are shown, first of all, in a lower reaches of the rivers. Absence of the International legal mode regulating these questions, conventions on protection and prevention of region rivers pollution and other procedures in the field of Aral Sea basin protection result in negative displays, both on national, and on regional levels.

The isolated decision of the given problems turns around inefficient actions and unjustified economic losses. It is obvious, that overcoming of ecological crisis demands the integrated or complex approach with allocation of priority directions. Among them the most important are social aspects of protection problem of the people living here.

One of the first politically important and strategic task of the Central Asia states, which has followed the road independent development, was necessity of regional cooperationa directions choice , strengthening of consolidation for overcoming postSoviet social and economic and the environmental problems inherent in former rigidly centralized economy.

Aral Sea drying and scales of its influence on health of the population and surrounding natural environment, are recognized as the World Community largest ecological accident which consequences

can be eliminated only by joint efforts. The president of Kazakhstan Nazarbaev N.A. in January, 1993 at the Tashkent meeting of Heads of Central Asia states has initiated about necessity of acceptance of the coordinated measures under the decision of the Aral problem. This offer has been maintained by the countries of region. And in March, 26, 1993 in Kzil-Orda has taken place the conference of Heads of Central Asia states with participation of the Russian Federation on Aral problem, in which it is signed "the Agreement on joint actions under the decision of problems of Aral Sea and Priaralye, ecological improvement and maintenance of social and economic development of the Aral region ", establishment of the International Fund for Saving the Aral Sea, and its first President, the President of Kazakhstan Nazarbaev N.A. is elected. For the first time in the International practice for the decision of an environmental problem, so authoritative Interstate body which importance proves to be true that it should be headed by one of Presidents of the Central Asia states, has been created at such high level. The IFAS promoted qualitatively new Interstate relations in region, to strengthening of regional cooperation, conflictfree sanction of complex water-economic questions. Supervising body of the International Fund for Saving the Aral Sea is its Board formed of representatives of the states at a level of Prime minister assistants. At the same session on a parity basis Interstate council on problems of Aral Sea basin (ICAS), with its permanent working body - Executive Committee (EC) has been formed, except this at ICAS have been formed the Commission on sustainable development (CSD) and Interstate Coordination water-economic Commission (ICWC). As it is specified in Regulations about the International Fund for Saving the Aral Sea by the primary goal of Fund financing and crediting of joint practical actions, perspective programs and projects of rescue Aral Sea, ecological improvement of Priaralye and Aral Sea basin as a whole is in view of interests of all states of region. Into the tasks of the International Council entered coordination of joint actions on decision of Aral Sea problem, a choice of priority directions, programs and the projects concerning questions of water resources management and preservation of the environment, social - ecological improvement in region. Formation of fund means

is carried out due to annual deductions of states - participants, the International help and other contributions. On January, 11, 1994 in Nukus, the Heads of the Central - Asian states have approved substantive regulation of the comming out Concept from Aral Sea crisis and have ratified the program of concrete actions on improvement of ecological conditions in Aral Sea basin and Priaralye the nearest 3-5 years in view of social and economic development of region. The activity program includes actions on reduction in negative consequences and degradations of an environment, and also development of sustainable strategy of water resources management. There are determined seven prime subroutines consisting from 19 large regional and national projects.

For realization of this large-scale regional Program of actions the International Fund for Saving the Aral Sea, the United Nations and the World Bank were involved the countries - donors, various trust and other funds of the advanced countries and to Fund for Saving the Aral Sea the huge help from the part of many countries, sufficient active assistance of the specialized structures of the United Nations - European Economic Community, ESCATO, UNDP, support of such International financial institutions as World Bank, the Asian Bank of Development, the European Bank of Reconstruction and Development to no small degree promoted overcoming of social problems in region is rendered, to reforming of economy of its countries with transition to market relations. In 1997 at the next session of Heads of the Central Asia states on the Aral Sea problem the organizational structure of the International Fund has undergone reorganization, Interstate Council has been abolished, and its functions are handed to the Fund Board. As the new President the President of Uzbekistan Karimov I.A. has been elected, and the Executive Committee was placed in Tashkent. In 1999 the next President of Fund becomes the President of Turkmenistan S.A.Niyazov. In 2002 on a post of the President of Fund the President of Tajikistan - is selected Rahmonov E.S., and the Executive Committee from Ashgabad is relocated in Dushanbe.

Problems of Priaralye is, first of all, display of the long, deep natural-economic crisis which has captured huge region owing to

disbalance between available water resources and system developed here for last decades of economic way.

Created by Heads of the Central Asia states Interstate institute - the International Fund for Saving the Aral Sea - as the tool of collective influence on ecological and social-economic conditions in Aral Sea basin the certificate of political will and determination of strengthening of regional ecological safety.

Accepted, within the framework of the International Fund for Saving the Aral Sea in Kzil-Orda, Nukus, Almaty declarations, Tashkent and Ashgabad statement of Heads of the Central Asia states, the Program of Aral Sea basin, a number of other agreements have put in pawn a basis for the decision of complicated questions of joint water use, attraction of investments, loans, grants for improvement of water-economic and ecological situation in Aral Sea basin.

Due to the vigorous activity of thr Heads of the Central Asia states, headed by them on a rotational basis, the Fund for Saving the Aral Sea has obtained a wide International recognition and support.

Understanding, that liquidation of consequences of the Aral Sea disaster by heavy burden charge on economy of all countries of Aral Sea basin, Fund carries out the big work on activization of cooperation with countries - donors, the International funds and the organizations for attraction of their means to realization of regional and national programs. In particular, it concerns social problems of potable water quality improvement, creation of an effective regional control system by water resources in basin of Aral Sea, the control and the prevention of their pollution, restoration of broken natural balance in deltas of rivers Syr-darya and Amudarya. The governments of the countries of region together with WB, countries-donors and International organization, carry out realization of multicomponent regional project of Global Environmental Foundation " Water resources management and an environment in Aral Sea basin " as regional model for creation of the national and regional water strategy, allowing to provide equal conditions of water use and protection of water resources. This project is considered by the important component of system of regional safety.

Search of an exit from developed crisis in Priaralye should show

evidently, whether the mankind can cope with overcoming of dangerous tendencies of degradation of an environment, change a social and economic situation in the best side. Wildlife management passes in the category of the economic categories determining the further development of region. The ecology and economy are inextricably related in this sense. Sustainable development of any society should base on a safe environment.

Principles of sustainable development are extremely important for the Central - Asian region entirely concerning to especially vulnerable ecosystem. The countries of region have expressed readiness to observe these principles that has found the confirmation in Nukus Declaration accepted by Heads of the Central Asia states on September, 1995. On February, 1997 at summit in Almaty and on April, 1999 in Ashgabad the Heads of the states have confirmed the adherence to regulations of theUnited Nations development Program on an environment and have in every possible way supported aspiration to develop and realize uniform strategy on sustainable development of the countries of our region, directed on achievement of the consent and mutual understanding on questions of water use, protection of ecology of Priaralye in view of national water strategy of states - founders of Fund.

The future of region depends on efficiency of the Interstate cooperation, capable to overcome the real or imaginary barriers which are holding down economy of the countries. Complexity of a social and economic situation in region demands realization of concrete actions which should be determined in the new program of Aral Sea basin (ASBP-2). In the countries of Europe wide experience of nature protection activity is saved up. For us now it is very important to take advantage of this experience, to adjust concrete cooperation, switching and regulation of market relations in view of ecological requirements.

Today it is obvious, that absence of the uniform approach to an estimation of environment condition, influence of economic activities on ecosystem and to the economic mechanism of wildlife management in many respects constrains and even brakes the efficiency of the Aral Sea basin Program tasks decision.

It is important to note, that for effective realization of regional and national actions on overcoming consequences of the Aral Sea crisis, creation of normal ecological conditions for residing the population, it is necessary to have concrete projects on the ecological improvement, closely connected with development of economy of region, that is, they should have the integrated character sufficiently.

Now such projects are developed and would be useful to receive corresponding recommendations and the help on the part of the International organizations.

The decision of the Aral Sea problem demands realistic understanding of difficult social-economic and ecological conditions in region and dictates necessity to continue the efforts on overcoming consequences of the Aral Sea accident. More concrete measures therefore should be undertaken within the framework of a prepared new plan of action across Aral Sea. It is necessary to define precisely priorities of regional cooperation among which it is possible to specify the following.

The program of ecological improvement and management of the transboundary rivers will be carried out as the International program, capable to anticipate and prevent ecological disasters in other regions. With this purpose it is necessary, that the activity of the International Fund for Saving the Aral Sea was considered within the framework of the United Nations.

In connection with drying of Aral Sea it is necessary to take measures on prevention of region territory desertification. It is necessary to create in structure of the IFAS the International center for transfer of ecologically safe technologies to less developed countries and through introduction of such technologies, to provide sustainable development of the countries testing environmental problems.

It is necessary for International Community to have the global program of ecological safety based on national and regional strategy of development by creation safety ecological system. Experience of activity of the IFAS could promote creations of this Program.

U. ASHIRBEKOV,
Director of Nukus branch of
Executive Committee of IFAS,
The engineer - hydro engineer.

ECOLOGICAL CRISIS OF ARAL SEA: WAYS OF OVERCOMING

For last two - three decades on the decision of a problem of rescue and restoration of Aral Sea uncountable actions of different levels, mountains of articles, works, offers and projects were devoted. However, realization of actions proceeds, and projects and offers similar water transfer of the Siberian rivers or Caspian sea, remain hypotheses and as with the big regret the President of Republic of Uzbekistan I.A.Karimov has noted in Dushanbe meeting of Heads of the states of the CA from 6.10.2002, "Aral Sea Problem which was PUT FORWARD in 1993, not only solvin and weakened, but is more and more aggravated".

Really, the further continuation of drying of the sea, excessive pollution and frequently repeating deficiency of river water, intensive salanity the irrigated lands and begun scale desertification, combined with climatic changes, put significant pressure upon economy, social life of the population, a nature and an environment of Republic Karakalpakstan which, because of the geographical location is exposed to the strongest and intensive negative influences of the above-stated processes.

Thus, our region has turned to object of severe and fatal changes of quantity and quality of water resources, deterioration of geochemical balance of the irrigated lands, pastures, before transformation of extensive territory of Priaralye into desert, change of ecosystem of the whole region, owing to connection of lines of most difficult ecological, social and economic problems real threat of approach in the future social and economic confusion which separate attributes shown already today is created. It is put on a side of disappearance Aral Sea - as natural object and genofond of karakalpak people as ancient ethnos of peoples of C.A.

However, it does not mean, that the problem of Aral Sea at all solvable and it is time to say goodbye.

Certainly, connected to ecological crisis of Aral Sea global character has problems and will not be solved on beconing a magic wand at once, at all in one decade. It is necessary for this purpose the consolidated actions of all World Community, first of all political will and determination of heads of all countries of basin.

The president of our country I.A.Karimov at summit of Heads of the states of CA has fairly declared, that: - " the Decision of tragedy of Priaralye depends including on our joint actions in sphere of rational use of water resources ". It is very big, serious, responsible and capital-intensive problem. You see to nobody a secret, that a principal cause of tragedy of Aral Sea was excessive development for irrigated agriculture of virgin and deserted territories owing to which stability of natural balance of basin was broken.

First of all would believe necessary, finally, unequivocally to be defined with destiny of the sea. By the statements of separate scientists in a seal we know, that oceanologists have created computer model which describes probable future of Aral Sea at present development of events. So, on this model most likely, more extensive and fine east hollow Big Aral Sea depth 4-5m will hold on about ten years and will disappear. And western, deeper part will exist long enough - 70 years, and probably will not disappear up to the end as its water balance is supported with deposits, lateral inflow of subsoil waters and a residual drain of the rivers. However, as our President I.A.Karimov has confidently told: in Dushanbe summit of Heads of the states of CA: "all of us are uniform in one: saving the Aral Sea is necessary and to solve these problems is necessary".

In this connection, before scientists and experts of region there is a specific target, in view of requirements of preservation of ecological equilibrium and sustainable development of region to define at what level, what area and on what conditions requires to keep the sea, and due to what sources of water resources and actions. Or to prove, on the basis of convincing calculations, about inexpediency and impossibility of saving of the sea. And on the basis of these conventional deep scientific research works, Heads of the states of basin could accept an official

verdict about destiny of Aral Sea. For now, all to whom not laziness dealt with problem of Aral Sea, but anybody, for destiny of the sea, real does not do, and last time even avoids this theme. When the question with destiny of the sea then it will be possible to start development of the complete program of restoration of Priaralye ecosystem instead of with the sea or without it will be officially solved.

Nukus branch of IC IFAS in the performance of p. 4 " Programs of concrete actions on improvement of ecological conditions in basin of Aral Sea " (Nukus 1994.) Since 2001 has started realization of the project " Creation of small local reservoirs on a coastal line of the sea in delta of Amu Darya ". By the purpose of this program it is determined creation in territory of delta of Amu Darya and adjoining to it sites of the drained bottom of Aral Sea is artificial water flowed landscape of ecosystem with the purpose of improvement of conditions in Priaralye. The first stage of the specified project provides creation engineering - adjustable reservoirs the area of a water table about 70 thousand hect., the general capacity 810 mill.m3. Rehabilitation of a water-economic infrastructure of delta of Amu Darya within the framework of this project will provide a gain fishing on 1200 t., there will be reinforced a forage reserve of animal industries, favorable conditions for cultivation of fur animals, duplication and rest marsh and a waterfowl, development forest-tugay thrickets are created and general ecological conditions in Priaralye is considerably improved. Besides inhabitants of settlements located around Entre Rios, lengthways channels of Kazakhdarya, Muynaks and other channels with a water-fence from Mezdurechensk water basins will receive prospects of development of irrigated agriculture guaranteed and gardenings. End of an I-stage of the specified project with construction in a trunk of Amu Darya water outlet-regulator with the charge on 360m^3/sec. on fold of vill. Porlitau is planned to the beginning of vegetation of 2005.

However this project sold in conditions of the limited financial and water resources, can provide only partial restoration broken ecosystem of Priaralye. The destiny of more 230 thousands hect. dried up lakes, not speaking about the sea and its dried up bottom the area more than 2 mill.hect. remains suspended, depending on presence water resources. And " the shortage of water in region - as were told by President

I.A.Karimov at the above-stated summit of Heads of the states of CA: - it is caused not only limitation of water resources, but also them not by an economical expenditure and absence of concrete measures under the water-savings ". In this connection, and in view of that development of the new irrigated lands was made on a basis a little backward from a modern technological level and with the big deviations from design decisions, and old soiled lands demand a radical reorganization, consistently it is necessary to transfer all irrigated lands of basin on modern water saving kinds of irrigated agriculture with the dense drainage systems, excluding occurrence of saltening of lands.

Thus, probably on any time it is necessary to observe the moratorium on development of the new lands and on construction of new water-economic objects, which can change a hydrological mode of transboundaryed water-currents on the coordinated conditions. Besides, it is necessary to consider the problem expediency of exception of a crop rotation of the lowyielding, regularly unprofitable areas under crops placed on the deserted and salted lands where it is initially impossible to reach high harvest of agricultural cultures, at significant, surpassing 1,5-2 and more times of the greater charge of irrigation water, than on the average on region.

It is extremely necessary, urgently to carry out the actions directed on significant reduction of unproductive losses from the big main channels which size now reaches 20-30 % of taken away volume of water from sources. If to take into account, that over Kara Kum canal gets up to 600 m^3 /sec., and over Karshinskiy and Amubukharskiy channels up to 300 m^3/sec., and on main channels lower the Tuyamuyunsk hydrounit more than1200 m^3 / sec., of Amudarya water, only during vegetation the volume of losses makes not less than 6-8 bill.m^3.

In world practice the wide experience of realization of antifiltrational actions is saved up. Realization of these actions is dictated not only necessity of rescue of the sea, but for maintenance of need for water resources of the future generation which number continuously grows in all states of the basin. Means, realization of these measures inevitably and requirements of sustainable development, both region as a whole, and each state of the basin separately, and also ecological safety and

social and economic stability in region.

Significant reserve of satisfaction of needs of economic activities and ecological needs of region can and should serve maximal use of all kinds of drainage, collector and waste waters which volumes in basin some tens billions cubic meter and consistently being increased without achieve due feedback, collect in inside territorial hollows.

Fence from the river and transportation of irrigating water an assumption of significant unproductive losses up to root system of agricultural culture in necessary quantity, not only serious engineering science, but also material-intesive branch of economy which demands significant financial resources on construction and the contents on technically serviceable condition of water basins, water-intaking, water-elevating and water-distributive constructions, channels and collectors. The main source of a covering of these expenses and an effective method of economy of water resources is introduction coordinated between the states of basin of the mechanism of the exact account of a fence of water and system of paid water use, using and strengthening for this purpose organizational structures of basin water-economic associations "Amu Darya" and "Syr-Darya", with increase of their status.

All states of Central Asia, by the Kzil-Orda agreement from 26.03.1993, have recognized as the general problems " Ordering of system and increase of discipline of water use in basin, development appropriate Interstate legal and the statutory acts providing application common for the region principles of compensation of losses and underflows ". These tasks are in " to the Program of concrete actions on improvement of ecological conditions in Aral Sea basin for the nearest 3-5 years " brought by the governments and approved by Heads of the states of the Central Asia from 11.01.1994 have received even more precise outlines in below-mentioned edition: " To develop the common strategy of water-division, rational water use and protection of water resources and to prepare on its basis projects Interstate legal and statutory acts regulating questions of sharing and protection of waters from pollution. To develop and Commission specifications on a limiting expenditure of water on manufacture agricultural and an industrial output, and also a various sort technological needs ". As they say, there is no place more clearly.

However, the decision of these tasks remain only as declarations and the memorandums, appreciable practical actions on their realization meanwhile are not visible, there is only a set of various theoretical development as reports, and offers which not always identical to each other both as under the contents, and by principles of introduction of this or that element of mechanisms of joint water use. Probably, the decision of these questions demand the additional appendix of forces, including at a level of the governments and a political management of the states of basin.

Here I believe necessary to pay attention to some internal reserves which are necessary for using for improvement of ecological conditions in Priaralye.

First, in development of forestry on the drained day of Aral Sea, would be expedient for their acceleration to use underground subsoil waters that would raise also efficiency of spent actions. . Unfortunately, by our research organization and foresting organization, this variant of fastening of mobile sand and creations of forest shelter lines in Priaralye, were not used in practice . Secondly, by the as scientists, and foresting organizations, is extremely languidly studied methods of cultivation of galophytes which can develop and effectively counteract solten-dusty-transfering in conditions of the drained bottom of Aral Sea.

Despite of experts warnings and scientists on inevitable approach in connection with drying Aral Sea heavy conditions of life in conditions of full desertification, on the part of the public and controls of region, are poorly shown feeling of alarm, for destiny of the future of ability to live for human in Priaralye, which is put under threat of disappearance in embraces of Kara Kum and Kizilkum which already start to incorporate. From the beginning of Aral Sea drying already has passed almost 4 decade, meanwhile scientists of region do not offer any new method yet, effective development of the drained bottom of the sea, except for that, that was earlier known. The same can be told concerning establishments of agricultural sciences which meanwhile could not offer anything serious on cultivation of drought-resistant grades of a cotton, grain and other cultures in conditions of the increased salinity lands, at the limited water resources. Here it is possible to relate both, scientific

irrigators and land reclamators which have almost ceased studying of questions of perfection of watering engineering and drainage systems in present conditions of agriculture of Priaralye.

Special alarm causes conditions of introduction in an agricultural production of the elementary and effective ways of watering engineering, performance of requirements of working water legislation and other normative documents which first of all are directed on economy of water resources.

Owing to these reasons, lately along with reduction of productivity agricultural cultures, specific water consumption on manufacture of agricultural production steadily grows, that extremely it is not desirable in the organization of concrete actions on rescue of the sea and to improvement of ecological conditions in Priaralye.

With a view of creation of reliable potential in struggle against desertification and degradation of the irrigated lands, and also for restoration broken ecosystem of Priaralye, would carry out a number of actions:

First, inculcation to inhabitants of region, occupied on irrigated agriculture, necessary for maintenance of rational use of irrigating and irrigation water, skills in conditions of market economy;

Second, training of experts and heads of the agricultural enterprises, irrespective of a pattern of ownership, students of educational institutions of an agricultural structure and schoolboys to special methods of the land tenure, directed on struggle against unproductive losses of water resources and degradation of irrigated lands;

Thirdly, to increase a role of all public organizations and the responsibility of institutions of local government of citizens for ecological improvement of region, by realization of wide oral and evident explanatory work about negative consequences of desertification and degradation of lands, measures of the responsibility for the negligent relation to natural richness and to environment;

Fourthly, to create in addition to available, some protected sites of woods, lakes, deserts of nonconventional type;

Fifthly, to make priority financing of nature protection and ecological actions at the statement of any projects of new construction and the annual state budget, with the subsequent realization of the

rigid control of a course of their realization.

General deficiency of water resources amplifying from year to year, heavy ecological conditions and necessity of maintenance of normal conditions of ability to live for the population of Priaralye demand not only introductions, development and the organizations of nonconventional kinds of economic activities, but also nonconventional behaviors, actions and customs of the population and the public to bridle the further deepening of ecological crisis and to survive in new changed a severe environment not only in Priaralye, but also in all Aral Sea basin.

So for example, problems of development of economy, first of all agriculture which for the objective reasons turns in high costed kind of economic activities and relative unpleasantness of the region because of ecological badlyness for external investors in a combination unsuccessful sanitary-and-epidemiologic conditions, is seriously reflected in employment, incomes and social life of the population. In connection with falling incomes of the population of a problem of a standard of living and strengthening of social security of the population became the main subjects of attention of a society in Priaralye and specifies necessity of acceptance of the immediate measures directed on stay of the further deterioration of a social status of the population in region. As large capital investments urgent and significant means are necessary for development of obtaining and other nonconventional branches of economy, and also as small and average crediting that people could begin creation of the small and simple family small manufactures directed on reception of the additional income. Since 1998, carried out by our branch " the Program of social assistance to the population in adaptations to market conditions in a zone of ecological crisis " , despite of its small scale, has already raised hopes in breast and confidence of a significant part of the population that there is a care for their destiny, for their future, that they will be never thrown on an arbitrariness of destiny.

"The International Fund for Saving the Aral Sea can and should bring essential contribution in the decision of vital tasks of our people on improvement of ecological conditions in reservoir of the Aral Sea."
(I. Karimov 6.10.2002)

U. ASHIRBEKOV,
Director of Nukus branch of EC IFAS
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REALIZATION OF THE CONCRETE PROJECTS - THE DEPOSIT OF THE CONSECUTIVE DECISION OF SOCIAL - ECOLOGICAL PROBLEMS OF PRIARALYE

Drying the sea, excessive pollution and frequent deficiency of river water, salinity of irrigating grounds and beginning of vast devastation has transformed Republic Karakalpakstan, which because of the geographical situation was exposed to the strongest and intensive negative influences of the above-stated processes, in specific region in reservoir of the Aral Sea. In 2000-2001 the worse future forecast was realized - complete discontinuance of water supply not only to the sea, but also for northern areas of the republic and quick reduction of a water mirror of Aral Sea. Develops a degradation of soil and flora, the climate has changed. Under influence of these and other factors, here number serious ecological, social and economic problems has joined together which have put on a side of disappearance not only Aral Sea - as natural object, but also gene fund of the population of Priaralye by number at more than 2,3 million

The special threat of disappearance has hung above the Karakalpakstan, one of ancient ethnic of Central Asia, with its rich cultural and spiritual heritage saved by them within many and many centuries, from times of Zoroastrianism.

With acquisition of independence, the chiefs of the young states of Central Asia deeply understanding the danger to region of the further development of problems connected with ecological crisis of the Aral Sea, in 1993 have concluded " the Agreement on joint actions under the decision of a problem of the Aral Sea and Priaralye, ecological

improvement and support to social economic development of the Aral region". In this agreement of the state - the participants as in general needs have recognized: Rational use of the limited irrigating water resources of reservoir, maintenance of appropriate quality of water in the rivers and reservoirs of all kinds by forbidding of dump in it of the polluted drains and drainage waters, preservation of the sea as natural object by maintaining its reduced, but sustainable water basin, restoration of failed ecosystem balances of region, mainly in delta of Amu Darya and Syr-darya, controlling of system and increase of water usage discipline, development and realization in life of the coordinated strategy of social economic development adequate ecological safety of the people, living in region, and other measures of social character.

For coordination and maintenance of performance of the above-stated tasks of the state - the participants have found it necessary and have created the International Fund for Saving the Aral Sea, which already exist for 10 years.

As the Heads of the states determined the main directions of activity of Fund were:

- Realization of the joint ecological and scientific projects on saving of the sea and improvement of ecological conditions in the areas that have undergone to influence of the Aral Sea accident;
- Financing of joint fundamental and applied researches, and scientific and technical development on restoration of ecological balance, rational use of natural resources and protection of an environment;
- Creation and maintenance of functioning Interstate ecological system of monitoring, databank and other systems regarding conditions of an environment of the Aral Sea reservoir:
- Mobilization of means on realization of joint measures on protection of air basin, water and ground resources vegetative and fauna;
- Financing of the joint scientific and technical projects on management of borders in internal waters;
- Participation in realization of the International programs and projects on saving of Aral Sea and ecological improvement of the

Aral Sea reservoir.

- The Nukusk branch of executive Committee of IFAS, as well as other similar branches in the states of Central Asia, was created in 1996 with the purposes of performance support of the decisions by managing bodies of IFAS, and also development and realization of the appropriate projects and programs on improvement of an environment and improvement of a social status of the population of the injured Aral Sea from ecological crisis.
- In performance by branch of these functions, the President of the World Bank Mr. James Wolfonson rendered the first help. After his visit in 1995 the area of Southern Priaralye and sea by him was initiated the project of the World Bank " the Urgent help to the population ", which had the main purpose rendering the gratuitous urgent help to the population of Priaralye prior to the beginning of realization of the main project Program for Reservoir of the Aral Sea (PRAS). Within the framework of this project at cost of 561,3 thousand US dollars in 1996 -1997 3000 of fishing gear was acquired for the fishermen. Also provided with 4 minibuses and complete set of the textbooks for 4 children's houses, including special equipment for deaf-and-dumb children. Besides the lump sum material help for more than 2000 needy families of Bozaut and Muinak regions was rendered that suffered more than others from ecological crisis of the Aral Sea.
- Ecological crisis and the problems of development of economy branches directly connected with irrigated agriculture and processing of agriculture production, which cover more than 90 % of economy of republic, seriously have affected on employment and income of the population. While the former sources of the income have decreased, new could not be generated because of absence of capital income and technologies. The pressure with employment of the population grows and that annually market of work replenishes for the account of vacant labor of an agriculture industries, construction and industry, which by the above-stated reasons were compelled to reduce volumes of manufacture or were liquidated.
- In connection with fall of the incomes of the population, the

problem of a standard living became the main subject of attention of a society in Priaralye.

- These and other facts of social life of the population in Priaralye specify the necessity of taking an immediate measures directed on liquidation of deterioration of a social status of the population in region. Measures on maintenance of sustainable development of reservoir in view of improvement of ecological conditions approved by the Heads of the states CA is the long-term program, which is needed in Priaralye, measures on maintenance of heavy conditions of life of the people today.
- By observers is established, that the population of republic is hardworking, has good enough education and professional skills, but owing to the above-stated factors, have no free means for an investment in development of alternative economic activity. They also have no property, suitable as deposit for receiving a credit, at commercial banks.
- For development of region, the urgent and significant means as small and average crediting are necessary that the people could begin the creation of the small family and private enterprises directed on reception of the additional income.
- Such approaches are incorporated in 1998 " the Program of rendering of the social help to the population of Priaralye in adaptation to market conditions in a zone of ecological crisis". For the past period since 1.07.1998 to 1.04.2003 2256 of 4576 submitted offers were financed. The amount of financed projects has made 1485,9 million soms, at the expense of which 3632 new workplaces were created. By the executors of the projects the production was made and works produced, rendered of services for the sum of 3252,8 million soms, the profit made 494,5 millionsoms. The sum of return before the given means makes 770,5 million soms, which were directed on expansion of volume of the program. For short period this program has inspired a hope and reliance of a significant part of the population, that there is a care for their destiny, for their future that they will be never thrown on an arbitrariness of destiny.
- In connection with increase of the contents of harmful salts in rivers,

pestilence and herbicide, the quality of drinking water has worsened, that has resulted in growth of the patients with urine stone illness, which by the beginning of 1998 has made 287,9 on 100 thousand inhabitants, that is three times higher than average indications on Republic of Uzbekistan. Similarly, grows the disease among the population, tuberculosis, hepatitis and cordial diseases, which directly are connected by quality of drinking water and food, the condition of an environment and life level of the population. With the purposes of the partial decision of the above-stated problems, in 1999 the branch realizes the project " Organization of diagnostics and treatment of urinal and gallstone illnesses in Nukus " in cost of 1,9 million US dollars, at the expense of which newly created self-supporting urinological the center was equipped with the modern medical equipment on treatment of urinal illnesses and prostate without surgical intervention, and also a magnetic-resonant tomograph for revealing pathological changes in a brain and a cervical backbone of the person. For the last 3 years these devices rendered preferential medical care for more than one thousand patients suffering by urolithic illness and an adenoma of prostate on the sum of 20,0 million soms.

In the performance of item 4 " Programs of concrete actions on improvement of ecological conditions in reservoir of Aral Sea " (ASBP-1) since 2001 the branch has started the realization of the complete program of creation of delta of Amu Darya in the territory and adjoining to it sites of the drained bottom of Aral Sea, artificially flooded landscape eco-systems with the purpose of improvement of ecological conditions in Priaralye.

The first stage of the specified project provides creation of engineering - adjustable reservoirs with the area of a water table of 70 thousand hctr, the general capacity of 810 million cubic meters. Rehabilitation of a water-economic infrastructure in delta of Amu Darya within the framework of this project will provide a growth of fishes catch in 1200 tons. Except for that there will be support for a forage reserve of animal industries, favorable conditions for cultivation of fur animals, breeding of marsh and waterfowls, development woods thickets and general ecological conditions in Priaralye are considerably improved.

For the time 1.05.2003 building and water-economic works on 1691,7 million soms are executed.

In a heat of the most severe shallowness in 2000-2001 when in northern areas not only there was a lack of irrigation water for irrigated agriculture, but also potable water for the population, Nukus branch realizes the project " capital repair of rural pump stations and improvement of water supply of agricultural population " by the cost of 70 million soms due to which repair - regenerative works on 8 head water-intaking constructions with installation of the pump equipment on 28 chinks and 5 water-freshening installations were carried out. Drinking water supply of 56,2 thousand people is improved.

With a view of fast drained bottom of Aral Sea, prevention of the further growth of salinity and vast desertification, from 2002 the branch starts realization of pilot projects " Creation of protective wood plantings on the drained bottom of Aral Sea " and " Development of the drained bottom of Aral Sea on the basis of local salt and drought-resistant cultures ". A task of realization of the specified projects is definition of most acclimatized on the drained bottom of the sea kinds of deserted plants of effective methods and technologies of cultivation of wood plantings for reduction of carrying out of a toxic dust and fastening of removable sand - "of Aralkum". At positive results of realization of the specified projects, they will be spread on all area of the drained bottom of the sea and positive shifts in localization of processes of salanitydust carry and desertification will be achieved. For the period of 1.05.2003 phytoland-reclamation works are executed on areas of 1000 hctr. and field prospecting works on the area of 10000 thousand hectares are started on the drained bottom of the sea, the total cost is 48 million soms.

- With a purpose of attraction of attention of the wide public and the population of republic to original causes of occurrence of non-productive expenses of water, change of existing ideology of water usage of stereotypes of behavior and attitudes to water by water-users as to a valuable natural resource, initiation of the population to active actions in struggle against conservatism, estrangement during the decisions of the questions connected to the use of water resources,

annually since 1999 competition on a theme " the Water is a pledge of a life " on the best newspaper articles, television or radio broadcasts about a condition of use, and protection of water resources management, execution of performance of requirements of the existing water legislation, improvements of the environment, is connected with the water resource use is regularly carried out.

Alongside with realization of the above-stated large projects by the branch a number of actions are carried out directed on:

- Ecological education of the population - the International Children's Conference " the Aral Sea crisis from the sight of the children " been held, (Nukus city 1999), shown in the countries of the Central Asia the first experience when the opportunity to express the opinion on the problems connected to an environment has been given to children and to present own opinion at problems of Aral Sea reservoir, organized an exhibition of paintings devoted to a history of the Aral Sea crisis in the National museum of Karakalpakstan, the poster is edited and distributed in all institutions of education and public health services of republic " Knowledge of culture, preservation of health - a pledge of healthy generation";
- Education among population of the careful relation to water by the example of pernicious consequences catastrophic shallowness in 2000-2001, the documentary television movie " the Water -is pledge of life " was created;
- Rendering of material aid to children of the shepherds living on pastures and needy families of a countryside, most injured of the most severe shallowness in 2000, creation of orchards "Skaiat" in Nukus area and "Ajiniya" in area of Mujnak which products are planned for donation for pupils of boarding schools.
- All realized projects and the carried out actions have concrete meaning, directed on the salvation of a concrete problem arisen in connection with ecological crisis of Aral Sea. The society of republic is widely informed on a course of realization of each project and realization of all actions through mass media as special messages, the reporting and broadcasts.

  Here is necessary to note, that the realization of the above-stated

actions became possible due to initiatives and supports, daily care and the help of the President of Republic Uzbekistan of I.A.Karimov, assistance of the government and other state economic structures of republic.

Certainly, as these measures were actual, effective and attractive, but arisen in Priaralye ecological situation, the social and economic conditions, the begun intensive process of degradation of an environment and desertification urgently demands acceptance of more wide and multiple actions on termination of further growth of ecological crisis in Priaralye. First of all, would consider it necessary, on the basis of deep research to accept mutual an official verdict about destiny of the sea by the Heads of the States: «if to keep, - then in what size and from which sources, if not to keep - then by what measures to prevent negative consequences from its disappearance which will be affected on a significant part of territory of reservoir and can be a source of social intensity and infringement of ecological safety of the region».

Only mutually having determined a destiny of the sea, it is possible to start the development of a complete and long-term strategy of improvement of ecological conditions in region and restoration of broken eco-system in reservoir of Aral Sea.

"All should understand, that value of water is not less, than value of petroleum, gas, coal and other kinds of fuel and power resources. Carefully having developed new strategy concerning energy sources and their uses and as a whole - ecology of a nature and electric power of territory, we should create all for the sustainable future of the country and region"

(Emomali Rahmonov, The president of Tajikistan, President of the IFAS)

S. MAZOHIROV,
Director of the Tajik branch of Executive Committee of International Fund for Saving the Aral Sea

ROLE OF TAJIKISTAN WATER RESOURCES IN DEVELOPMENT OF ECONOMY OF THE CENTRAL ASIA

The developing social and economic situation and condition of the natural environment in the Central - Asian region demand new strategy of rational use of available water resources. The water-savings in all spheres of water use and water consumption is the only thing of a direction providing sustainable development of economy and stabilization of sanitary - ecological conditions in region which has huge reserves of the water-savings by use of some the technical and organizational actions which are not demanding significant capital investments. Special interest represents reduction of losses of the organizational character, connected with mistakes in water-division, in management of water resources, in excessive losses of water in channels, in dumps outside of the river and others.

Importance of water in a global scale

The general Assembly of the United Nations has supported the initiative of the president of Tajikistan and has declared 2003 - International year of fresh water. What reasons gave reason for the offer and the decision of the president and the United Nations, whether there was a vital need for acceptance of such global decision?

About third of population of a planet (2 billion people) provides the needs for fresh water due to operation of underground horizons.

In result over operation the level of underground waters falls. About 80 countries, for which it is necessary 40 percents of a world's population, to middle of 90th being in a situation of sharp deficiency of water. About 1,1 billion people are still insufficiently provided with pure potable water, and 2,4 billion people - modern systems of the water drain.

There are following parameters of the disease caused by quality of water: only to risk of infection by a malaria are potentially subject two billion people, 100 million cases of diseases are registered simultaneously, and 2 million death - annually. Per one year it is registered about 4 billion cases diarie about 2,2 million fatal outcomes, that to equivalently daily wreck of 20 huge airliners.

It testifies about water, as important factor of social and economic life of a society. As it frequently happens, least socially and economically protected categories of the population-poor and older people, women and children - to the greatest degree suffer from changes of an environment. It is connected to the limited opportunities to move in more safe areas to get the foodstuffs during droughts and poor harvests, to use alternative sources of fuel in case of deforestation or to receive necessary medical aid.

Water resources and problems of Aral Sea

Initiation of a question of deficiency of potable water by the President of Tajikistan, nowadays the President of the International Fund for Saving the Aral Sea, Emomali Rakhmonov, is logical as water resources and all with it connected in Asia have resulted to accident of XX century -to the problem of Aral Sea.

The Rivers, water resources, as a whole, unite all five countries of the Central - Asian region. Change of limits of water consumption even inside one state inevitably touches interests of other states. The nature has created preconditions for realization by the Central - Asian states uniform, common regional strategy of sustainable development, ecological and economic cooperation.

It Is necessary to note, that all hydrounits constructed in the Central Asia had complex, mainally power purpose, and, as a rule, in interests not one, but several countries. Criterion of their work was

the maximal general benefit. Thus all countries received necessary indemnifications, not on the basis of mutual relations, and from the common budget of the former USSR.

Today, when all countries of the Central Asia are independent, such circuit is already impossible. On the foreground national interests act. Some countries of region (Kyrgyzstan, Tajikistan) declare necessity of revision before existing criteria and principles of Interstate use of transboundaryed water-currents regarding distribution of water resources, management, rational use and their protection. In our opinion, the common regional problems can be considered only as the coordination of national interests by granting mutual services and indemnifications.

Stocks of water resources of Tajikistan

Natural stocks of water resources of Tajikistan the most significant among the Central - Asian countries. The average annual drain formed in territory of Tajikistan, makes 64 cubic kilometers, including the basin of Amu Darya - 62,9 cube. Km and Syr-Darya 1,1 cube. Km. The main drain is from rivers Pyanj and Vakhsh. The drain of the rivers mainally is suitable for the purposes of an irrigation, householding-drinking and technical water supply.

Besides superficial waters the republic has significant stocks of underground waters. Their formation in republic goes under action of a filtration of deposits in mountain districts, from reservoirs, channels, river channel … The Irrigation makes essential change to a mode and stocks of underground waters. The authorized operational stocks of stale water, suitable for economic, drinking, industrial, technical water supply and an irrigation 2,2 km3., and underground resources are estimated in 6,65 km3. Water resources of lakes of Tajikistan are estimated in 44 km3, from which 20 km3 - drinking quality.

There are constructed water basins, with total amount 15,1km3 and useful-7,2 km, in the rivers Amudarya and Syrdarya.

The volume of an annual water-fence changes within the limits of 12,8 - 13,5 km3. Annually about 4-5 km3 of water is dumped in superficial water objects, and are reused 0,3 - 0,4 km3 of collector-

drainage water and about 0,6 - 0,8 km3 on turnaround and repeated water supply.

A serious problem in Tajikistan is maintenance of the population with pure potable water. Despite of an abundance of stocks of potable water, Tajikistan remains the country with poorly advanced water supply. The centralized water supply provides 58,9 % of the population.48,3 % of the population use water directly from the rivers, channels, wells and other sources, frequently unsuccessful in the sanitary attitude.

With a view of an effective utilization of water resources it is necessary to develop the general strategy of water-division, rational management and planning of use and protection of water resources, both in a zone of formation of a drain, and in Aral Sea basin. At last result, it should render significant influence on improvement and stabilization of social - ecological conditions of Aral Sea basin.

Prospects of use of water resources in Tajikistan

According to experts, in the long term for development of economy of Tajikistan, under condition of fair water division between the states of region, it is planned to use not less than 19 km3 of water. In our opinion, this amount should be used by various water-users of the country strategically.

If householding - drinking water consumption of a national economy in Tajikistan in 1990 has made 0,48 km3 the increase in a water-fence at these needs completely depends on growth of a population which under forecasts should make by 2010 8,9 million people. By 2010 householding-drinking water consumption is predicted at a level of 0,6 km3/year, and a fence of water for needs of agricultural water supply - 0,76 km3/year.

In conditions of development of market economic relations and increase in number of small manufactures, it is especial in mountainous industries, by 2010, it is required to spend in 2,5 times of more fresh water in comparison with 1990 that has made 1,5 km3. Application of the closed water use will allow to reduce needs of the industry for fresh water in the long term.

The main a strategic direction of Tajikistan in development of water

resources is the power. The common potential hydro resources of republic exceed 500 bill.kWt/h./year, from them technically probable and economically effective - about 300 bill.kWt/h. Today only 15 billion is accustoms to country, that is only 5 % only.

Other strategic direction integrally connected with first, is regulation of a drain of the rivers of all Aral Sea basin in interests of irrigation. Realization of this direction can be carried out by the same construction of HYDROELECTRIC POWER STATION by a corresponding choice of volume of water basins.

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(SIC ICSD)

REGIONAL COOPERATION IN THE CENTRAL ASIA IN THE FIELD OF PRESERVATION OF THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

The countries of the Central Asia, that formed in 1991 after disintegration of former Soviet Union, representing a uniform regional natural-economic complex with identical historical, social and religious traditions of the population, have faced a number similar economic, social and environmental problems.

According to documents of Conference of the United Nations on an environment and development (Rio de Janeiro, 1992) the countries of the Central Asia went to realization of the program of the sustainable development providing the balanced decision of social and economic tasks, problems of preservation of a favorable environment and natural-resource potential with a view of satisfaction of requirements of present and future generations.

The unity of environmental problems in the Central Asia has led to activization of regional cooperation between the countries for which transition to ecologically safe and sustainable development is priority. Taking into account global character of drought of Aral Sea and developed common crisis ecological conditions, the heads of the states of Central Asia have entered into the Agreement on joint actions under the decision of a problem of Aral Sea and Priaralye, to ecological improvement and maintenance of social and economic development of Aral region, signed in Kzyl-Orda on March, 26 1993. The Agreement was the first main document directed on introduction of the concept of sustainable development of the states of Central Asia in conditions of Aral crisis. There were created The International Fund for Saving the Aral Sea (IFAS), which founders are Presidents of the states of Central Asia, and in its frameworks the Interstate Commission on sustainable development (ICSD), Interstate Coordination water-economic Commissions (ICWC), their Scientific - information centres (SIC).

The heads of the states of region repeatedly at various forums and

summits declared, that maintenance of stability is a key question of social and economic development of the countries of Aral Sea basin. Have been signed Nukus (1995), Almaty (1997), Ashgabad (1999), Dushanbe (2002) declarations. These declarations confirm, that the heads of the states of Central Asia attach great importance to activity of the ICSD.

Coordination and management of regional cooperation is assigned to the Interstate Commission on sustainable development (ICSD) in the field of preservation of the environment and sustainable development of the countries of Central Asia, including:

- The organization and coordination of development of regional strategy of sustainable development, programs and plans of sustainable development;
- Management of regional programs, plans of action, projects in the field of preservation of the environment and sustainable development;
- The organization of examination and preparation of regional projects;
- Coordination of actions at realization of obligations of the countries of Central Asia on performance of the nature protection conventions having transboundary aspect;
- Assistance of unification of legislative and methodical base in the field of preservation of the environment;
- Assistance to Interstate information interchange and creation of regional information bank in the field of preservation of the environment and sustainable development which tasks include also preparation of the regional Summons - 21 and the Convention on sustainable development.

ICSD will consist of 15 members - 3 representatives from each state. (Ministers of preservation of the environment, assistants to Ministers of Economics, representatives of a science and other branches), appointed by the Governments of the countries .

Agencies of the ICSD are: Secretary, Scientific - information centre (SIC ICSD) with branches in each of states - members of the IFAS.

Management of the ICSD is carried out by Ministers of preservation of the environment (PE) of the CA countries on the basis of two-year-

old rotation. In 2000-2002 the power of Chairman of the ICSD, executed by Minister of Kazakhstan, has allowed to stir to activity considerably of the ICSD. In May, 2002 the power of Chairman of the ICSD are handed to Minister of wildlife management of Tajikistan.

For rendering information and expert support to the ICSD, realization of its operative activity in August 1995, on behalf of heads of the CA states, and as a result of carried out tender, the Scientific - information centre (SIC ICSD) has been created on the basis of National institute of deserts, vegetative and fauna of the Ministry of wildlife management of Turkmenistan.

SIC ICSD has received the status of the International regional organization. Its head office is located in Ashkhabad (Turkmenistan). Its four branches are created in each of the states of Central Asia at national agencies on sustainable development or preservations of the environment. The structure SIC is consist of four departments: sciences, technics and the International cooperation; social and economic and legal problems; a biological variety and ecology; computer science and databank.

The Purpose of the SIC is creation of complex information system for decision-making at regional and national levels and standardization of gathering of the social and economic, scientific and technical and ecological data on sustainable development of region.The SIC ICSD, according to the authorized Position and the program of works, carries out information, program, methodical and consulting maintenance of tasks of the ICSD. : The gathering, processing and ordering of the information on an ecological, social and economic condition; creation of uniform information base and a databank with a view of rational wildlife management in Aral Sea basin; development of recommendations on social and economic development, scientific and technical and ecological cooperation of the countries of the Central Asia; development of the concept and the program of creation of uniform system of monitoring of the natural environment of Aral Sea basin; Development of uniform techniques by a ecologic-economic estimation of use of natural resources; development of main principles and criteria for acceptance by the states of Central Asia of acts on questions of stabilization and

improvement of a condition of the natural environment, are assigned to the SIC.

By the SIC ICSD, in region, there was created organizational and information basis for joint actions under the decision of problems of sustainable social and economic and ecological development of the CA countries.

One of aspects of cooperation is still zone of Aral basin. Since 1994 the Program of Aral Sea basin (ASBP) is carried out. The program is approved by Heads of the states of the Central Asia and consist of lines of priority directions: stabilization of an ecological situation in Aral Sea basin; Restoration / improvement of a zone around Aral Sea; perfection of management transboundary waters in Aral Sea basin and strengthening of potential of regional bodies on planning and performance of the ASBP.

Now the work on preparation to the ASBP-2 on the main directions, authorized by Presidents of the countries of Central Asia is conducted. The SIC ICSD in structure to working group conducts development of the ecological and social and economic block of the Program of concrete actions on improvement of ecological and social and economic conditions in Aral Sea basin(2003-2010).

Within the framework of the project " Development of potential of Aral Sea basin ", SIC participated in development of key questions, selection and testing of indicators in the field of sustainable development to the ground and water use in view of specificity of ecosystem of Aral Sea basin. As a result of this work the list of recommended indicators (key and additional) has been prepared. On selected for an estimation of stability to the ground and water use in Aral Sea basin to indicators, methodical sheets and recommendations on their introduction in practice are prepared.

Besides by the SIC ICSD was prepared the Program on improvement of social - ecological conditions in territory of Turkmenistan Priaralye, where the analysis of spent actions on reduction in environmental contamination is lead, recommendations on its improvement are given and possible expenses are determined. Work has been executed at support of Executive Committee of the IFAS and in close cooperation by the interested ministries and

departments of Turkmenistan which have given the comments on it.

By SIC also is created and the uniform database on blocks " the Economy-Environment-Society-Politic " is supported. In a basis, have lain, the national reports on a condition of an environment and on sustainable development of the CA countries. The information on legislative base of the countries of the CAR is collected in the field of preservation of the environment, and also the data on the International conventions and Programs of the United Nations on questions of an environment and sustainable development.

The World Summit has taken place in 2002 in Johannesburg on sustainable development on which the ICSD the Central - Asian initiative has been submitted. Within the framework of preparation for Summit by Scientific - information centre of the ICSD and Regional ecological center of CA (REC), have been prepared and approved by the ICSD, "Methodological recommendations on preparation of the Central - Asian strategy of sustainable development (CA the Summons - 21) " and the report " the Central Asia : the review of progress on realization " the Agenda for 21 century " in September, 2001".

It is charged for the SIC and REC preparation of the concept of the Regional Summons 21 .

In April, 1998 at the ministerial conference of CA region devoted to preparation for the European conference, the countries of region have declared the intention to formulate the complex regional nature protection program.

Within the framework of the project " Development of potential of Aral Sea basin ", the SIC participated in development of key questions, selection and testing of indicators in the field of sustainable development to the ground and water use in view of specificity of ecosystem of Aral Sea basin. As a result of this work the list of recommended indicators (key and additional) has been prepared. On selected for an estimation of stability to the ground and water use in Aral Sea basin to indicators, methodical sheets and recommendations on their introduction in practice are prepared.

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In June, 2000 by the decision of the ICSD SIC has been allocated the status of the Center of cooperation UNEP/GRID Arendal and the regional center of cooperation on the Global Ecological Review (GER-3). Within the framework of this decision by the support of the UNEP, SIC has prepared a subregional component on CA for GER-3 in which the Central Asia has come for the first time. Besides, the SIC has issued in English and Russian languages the Regional report and National reports of the GER-3 in the CA countries , including a retrospective estimation of changes of the natural environment for last 30 years. Reports included a retrospective estimation of changes of the natural environment on its components for the last 30 years; the general data on natural and social and economic conditions of the country; the strategic steps undertaken for improvement of conditions of interference of natural and anthropogenous factors; a control system of an environment; directions of perfection of the International cooperation in the field of the PE.

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In April, 1998 at the ministerial conference of CA region devoted to preparation for the European conference, the countries of region have declared the intention to formulate the complex regional nature protection program.

In February, 2000 at a meeting of the countries of the ESCATO in Teheran on nature protection cooperation Ministers of an environment of the countries of the Central Asia have confirmed readiness to develop the Regional Environment Action Plan (REAP) in Central Asia. Thus ICSD was the coordinator of preparation of the Plan. With the purpose of practical conducting process of the REAP the Steering commitee of Officials (SCO) consisting of responsible officials from the ministries of preservation of the environment of the Central Asia countries and partners - donors has been formed. Expert-technical support to the SCO on preparation of the Plan was carried out by the SIC. The REAP has been prepared on five priority ecological directions. Thus each country in the Centers of cooperation carried out data gathering, the analysis and development of recommendations on one of them: air pollution - Uzbekistan; pollution of water - Kazakhstan; degradation of the grounds - Turkmenistan; a waste management - Kyrgyzstan; Degradation of mountain ecosystem - Kyrgyzstan. In Turkmenistan the Center of cooperation was the National institute of deserts, vegetative and fauna of the Ministry of wildlife management.

Prominent aspect of formation REAP was active interaction with national nature protection strategy and plans.

For monitoring and information support of regional coordination of projects, by the Scientific - information centre is created and supported the database under the current and planned regional ecological projects. And now the SIC conducts completion of the projects included in the Plan of action for representation to their donors.

The REAP has been initiated at Conference of Ministers of the Central Asia in September, 2001 and approved by the ICSD as a basis for the further development.

In May 2002 the ICSD has prepared for approval the Concept on support to the REAP. The wide additional purposes reflected in the Concept, as continuation of the REAP and in reply to inquiries of the Governments have been offered: (1) strengthening political and institutional bases for regional cooperation; (2) strengthening of opportunities in decision-making process in region; (3) expansion of involving of a civil society.

According to the given Concept now by the SIC ICSD it is determined by the regional center work on development of Central - Asian system of support of decision-making (SSDM) in the field of preservation of the environment and sustainable development. Work is carried out by the support of the UNEP, UNDP and the Asian Bank of Development.

Decision-making is the dynamical process which is carried out at various public levels, and including social, economic, institutional, political aspects and questions of an environment. Each stage of a cycle of decision-making demands use of various types of the information, indicators.

However acceptance of the mutually acceptable and proved decisions probably only on the basis of the full qualitative information on economic, social, ecological and political aspects of development of the countries of region as a whole. Now such information is very diverse and scattered on different sources.

The estimation of the current condition demands creation of the common for the Central Asia an expert-information network which could unit existing national networks and the information. The analysis of the information and monitoring will serve as the creation mechanism of information System of support of decision-making on sustainable development of region, introduction of the REAP, and also adaptations of a global nature protection policy to regional priorities will promote.

Functioning of system of decision-making and the mechanism of action are both a modern level of development of public relations,

and the independent purpose. It characterizes a role of the ecological factor in socio-economic planning and a degree of participation in decision-making all sectors of a society. Necessity of creation of such system and development of plans of action on preservation of the environment and achievement of sustainable development have defined requirement for formation of the high-grade ecological information.

Circuit of the SSDM is based on positions of Chapter 40 "the Agenda for 21 century". At a level of figures there is an integration of the sectoral data of official national statistics into a complex regional database with application of methods of management by databases and technologies of geoinformation systems (GIS). At an information level indicators of an estimation of efficiency of performance and progress are used on the basis of the analysis of the data. At a level of decision-making - are prepared the reports by the integrated estimation for the supreme supervising echelon which will lean on the proved quantitative database completely providing decision-making process.

The submitted structure is flexible, answers to the questions: what level and how to carry out monitoring and the analysis.

At first stage the SIC ICSD has prepared and has issued the report according to requirements for development of the SSDM in Russian and English languages which has been distributed in region among initiative groups, International organizations and donors.

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The further work under the project is lead on data gathering and definition of indicators of sustainable development of CA on priority directions of the REAP.

Now the report " Ecological indicators of sustainable development of the countries of the Central Asia " is prepared and distributed for

discussion. Work on gathering and the analysis of the ecological information has brightly shown, that for successful creation of uniform ecological information system in the Central Asia by the integrated estimation and management of an environment, is necessary to support and develop up to a level of the International standards national ecological monitorings in the countries of CA, to exclude dissociation in the ecological reporting of the various ministries and departments, to lead indicators of the countries of region to a uniform format etc..

Formation of five new sovereign independent states in Central Asia has allowed to consider in a new fashion questions of rational wildlife management and to develop approaches from the point of view of national interests and with orientation on sustainable social and economic development in ecologically safe conditions. The problem of wildlife management and rational wildlife management is considered as the important part of the many-sided purpose of sustainable development of the countries of Central - Asian region.

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ABOUT USE OF WATER RESOURCES IN AN AGRICULTURE

The general area of territory of Kyrgyzstan makes about 200 thousand km of which 75 percent make mountain raisings, ridges, intermountain valleys. Mountains, mountain tops are accumulators of an atmospheric moisture, form a powerful river network. Superficial water resources of republic are belong to three main drainless basins:

- Aral Sea - 76 %,
- Issi-Kul Lake -11 %
- Lobnor lake - 12 %

According to the newest researches total water resources of a river drain make about 47 км^3 in average on hydraulicity year, and total with returnable from an irrigation and waters such as "karasu", so-called operational water resources of a river drain make about 50,0 км^3.

Potential resources of underground stale waters make 13,7 kms. The stocks of underground waters reconnoitered and authorized when due hereunder on 34 deposits make 3,5 km^3.

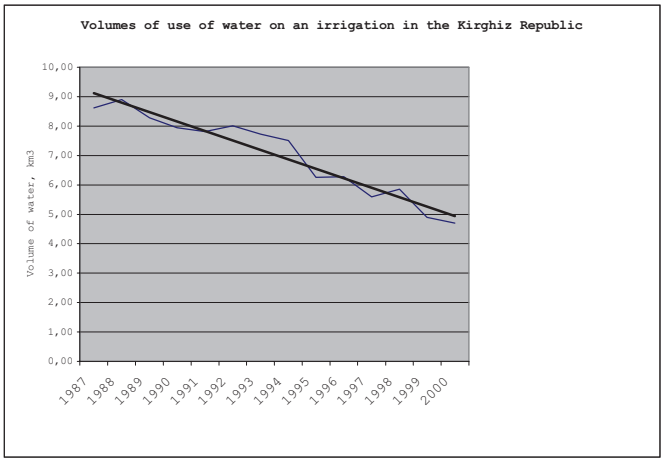
Water resources of a river drain of Republic are used on 20-25 % mainally on an irrigation, other drain acts on territory of the neighbour states: Kazakhstan, China, Tajikistan, Uzbekistan.

The greatest volume of water is used from basins of the rivers Syr-Darya, Chu, Issyk Kuls and Talas. Practically the drain of the rivers of basin Tarim and the rivers Karkyra is not used.

"The general parameters of use of water in Kyrgyz republic " (on a basis of the state statistical reporting 2TP-vodkhoz), million m^3.

Table 1

Year	In total it is taken away, W пов. в т.ч.W подз.	It is used:					
		In total	Including for needs:				
			econ.-household	Industrial	Irrigation	Agricultural water supply	Others
1	2	3	4	5	6	7	8
1987	880	9714	248,7	659,6	8615	148,8	41,79
1988	948	10050	264,96	634,55	8905	201, 4	43,62
1989	11 737 1062	9363	265,18	621,89	8282	152,11	40,95
1990	11 737 1062	9000	256,13	622,58	7943	139,31	38,74
1991	10043 1 102	8954	248,62	674,09	7817	173,68	40,3
1992	10260 934	8953	252,61	525,74	8006	136,76	31,62
1993	10541 869	8535	289,34	347,35	7733	137,48	28,38
1994	10122 793	8253	292,97	277,52	7509	163,04	15,95
1995	8614 693	6942	271,67	254,02	6251	158,76	6,0
1996	8956 639	6878	254,35	236,04	6278	106,89	2,58
997	7876 591	6178	316,1	141,8	5597	111,5	11,0
1998	8321 526	6420	309,2	137,6	5858	105,2	10,2
1999	9179 429	5251	208	61,3	4896	63,7	1,19
2000	8025 302	4976	182	47,8	4701	47,8	042



Apparently from the table, the main consumer of fresh water in republic is irrigated agriculture, therefore there will be a speech about a state of affairs in this branch below.

On the basis of the table 1 data there is constructed a graphic " Volumes of use of water for irrigation ", fig. 1 evidently showing change of this parameter on republic for last 14 years .

What do we see?

If during Soviet time the annual increase in volumes of the used water at needs of an irrigation which maximum has fallen in 1987 - 1990 , since 1991 was observed the return process - decrease.

Apparently, the highest volume of use was marked in 1988, made without small 8,60 km3 after which its sustainable reduction is marked. And, the sharpest reduction was marked in 1995 (6,25 km3) year with the subsequent sustainable reduction in volumes of the used water.

One of the reasons of reduction in volume of a water-fence and use of irrigation water in 1995 is introduction by the Government of republic of tariffs for services on water delivery. Even rather low payment - only 1,5 tiin for 1km3 in areas favorable for agriculture, has led to that water-users began to use economically received water.

Now the tariff authorized in 1999 - 3,0 tiin for 1 km3 for favorable zones operates during vegetation.

During the subsequent after 1995 relative stabilization in quantity of the taken away water is marked, the volume of a water-fence changes within the limits of 7,9-9,2 km3.

Also for the 10-years period is marked the reduction in irrigating norm on 25 % which makes about 6 thousand m3 against 7,6 in 1990 . It is possible to explain last circumstance increase in the area of less moistureloving cultures. The analysis shows, that for last 14-years period reduction in a water-fence on republic as a whole has made 40 % that it is possible to explain:

deterioration of a technical condition of an irrigational network;

not full use of the irrigated areas;

introduction of the Law " About tariffs for services on submission of irrigation water " in 1995.

the low solvency, again established fine farmer and country facilities on a place of old collective farms and state farms.

absence of the due account of taken away water small farmers and facilities on an interfarm irrigating network. Now their quantity has reached more than 100 thousand,

- change of structure of cultivated cultures.

In this connection, it is interesting to track use of an arable land in Republic. By the data of republic National Statistic Committee, by the beginning of 2001, the general area of an arable land in Republic has made 1,4 million hect., the irrigated grounds - 1,07 million hect.. For last five - six years from agricultural cycle it is deduced about 60 thousand hect. besides annually were not used or was under pairs, on the average by 150-200 thousand hect., including the irrigated grounds - 50-60 thousand hect.. Thus, and in use of an arable land is marked the reduction in the areas .

In addition to mentioned in table 2 dynamics of the areas of crops of agricultural crops is resulted.

Dynamics of corps and agricultural crops change in republic Kyrgyzstan, one thousand hect..

Table 2

Culture	Years							Among
	1990	1992	1994	1996	1998	1999	2000	я
Grain	537	576	585	616	653	661	590	602,6
Corn on a grain	60	55	37	46	47	61	69	53,6
Rice	1,2	1,9	3,0	5,4	5,5	6,1	6,2	4,2
Cotton	29,7	21,5	26,5	31,7	32,1	34,7	33,9	30,0
Sugar beet	0,1	6,3	9,8	14,3	22,4	28,9	32,8	16,4
Tobacco	19,1	20,8	18,9	8,7	12,4	12,5	13,7	15,2
Olive	7,8	8,0	30,5	70,8	59,5	68,5	60	43,6
Potato	25,2	27,2	34,2	49,2	59,2	64,3	69	46,9
Vegetables	20,7	22,2	22,4	32,8	39	47,9	87,1	38,9
Melon fields	4,6	2,9	2,6	5,2	4,1	4,4	4,0	4,0
Grasses on hay	188	188	200	207	167	187	156	184,7
Grasses on a green forage	156	151	118	49	28	22	21	77,9
General	1294	1264	1247	1 193	1 175	1208	1 142	1218

As we see, the reduction in an agricultural production was especially showed in 1994-96. Last years mainally is marked the sustainable growth of crops, except for green forages that speaks reduction in a livestock of cattle.

And the most important parameter is the productivity of cultivated agricultural crops resulted also on the basis of the data of republic Nationa Statistic Committee.

Table 3

Culture	Productivity c/hect.						
	Years						Average
	1990	1992	1994	1996	1998	1999	
Grain	28,0	26,3	17,0	22,7	26,0	26,2	24,4
Corn on a grain	61,8	51,3	35,3	43,2	49,2	53,0	49,0
Rice	17,1	14,7	13,0	12,5	22,0	24,5	17,3
Cotton	27,3	24,4	20,2	23,1	24,6	25,1	24,1
Sugar beet	168,5	213,3	116,2	152,1	199,7	203,3	175,5
Tobacco	21,6	20,8	19,2	21,1	22,4	24,5	21,6
Olive	13,2	7,8	4,7	5,3	7,9	8,7	7,9
Potato	136	124	90	114	131	149	124,0
Vegetables	196	154	115	FROM	143	152	145,5
Melon fields	131	76,0	72,0	83,0	123	150	105,8
Grasses on hay	58,2	53,1	42,8	45,3	54,0	48,0	50,2
Grasses on a green forage	229,3	219,7	163,9	150,8	196	170,8	188,4

Especially it would be desirable to note, that after the lowest productivity practically all sowed cultures, marked in 1994, the next years sustainable growth, and productivity is observed, for example, rice for last years has grown almost twice.

Citing all these data, I would like to find out with you - that what we have for today? What it is possible to draw conclusions from all told above?

1. As shown above, now the volume of a water-fence does not exceed 9,0 km3 in one year, that below similar in 1988 on 4,0 km3;

2. The area of an arable land for last 6 years has decreased on 60,0 thousand hect., plus of 150-200 thousand hect. annually is under pairs or is not used;

3. Productivity of agricultural crops according to 1994 has increased on some cultures twice.

What kind of interrelation is between these factors? On the one hand reduction in volumes of water-fence and irrigating norms, reduction of the area of an arable land, with another - sustainable growth of productivity.

It is possible to assume the main thing:

Introduction of tariffs for services on water delivery, their differentiating on a season, and also on favorable and heavy climatic zones has enabled water-users rationally, in view of opportunities to take away and use irrigating water.

Differently, the economic lever, which tariffs for services on water delivery are, the most effective in business of rational use of water resources.

At the same time, the low solvency of fine farms insufficient agronomical literacy does not allow to receive higher crops and, certainly, it needs time.

Other question - as far as there correspond used tariffs for services on delivery of waters to those expenses which are carried with the state on these purposes.

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CONTRIBUTION OF DASHOGUZ BRANCH OF THE INTERNATIONAL FUND FOR SAVING THE ARAL SEA TO THE DECISION OF PRIARALYE ZONE PROBLEMS

These days all of us workers of division of the IFAS, celebrate the 10-anniversary of formation of our fund and we bring results of the work done by us for the period of formation of the IFAS, on mitigation of influence of crisis of Aral Sea on the population and facilities Aral Sea basin and especial Priaralye.

Dashoguz branch of the IFAS was formed on July, 1, 1995. In our country more attention is given to Priaralye zone, in which is located Dashoguz velaet and Draganatin etrap of Turkmenistan.

The general area of region is 90 thousand км.^{2}, and the population is about 1200,0 thousand people. In 1990 the territory of Turkmen Priaralye, by the Decree of the President of the country has been declared by a zone of ecological disaster.

In the program of the President of Turkmenistan Saparmurat Turkmenbashi about social and economic reorganization in the country for the period till 2010 the special place is allocated to questions of social protection of the population, improvement of ecology, development of systems of water supply, removal and a reuse of sewage. The program provides reconstruction existing and construction of new objects, and also introduction of high technologies and methods of water treating and drains.

With a view of maintenance of realization of this program a number of the governmental decisions with annual allocation necessary material and financial assets is accepted.

For last 10 years it is mastered due to the current payments of Turkmenistan in EC IFAS 39710 million, Manat, that is equivalent to 7636,5 thousand US dollars.

Due to these means are carried out:

- Reconstruction of Interstate collectors: Daryalik and Ozyorniy 12716 million Manat.

- Clearing intereconomic collectors in Dashoguz velayat for the sum of 14345 million Manat.
- City pump sewer station SPSS-25 for the sum 7298 million Manat by capacity more than 50 thousand m3/day and 14 kms of the main sewer networks is constructed, the sewer network for 111 multi-storey apartment houses in microdistrict "Bahar" is constructed and all volume of sewage is deduced for repartitions of city.
- It is completed the installation of staling equipments in the central hospitals of Dashoguz, settlements of Nijazovsk, narcological hospitals of Dashoguz and settlement of Yilanly, in boarding school for aged and invalids which cost make - 2187,5 million Manat.
- Construction of a dam on the river Amu Darya in Goreld of Darganatin etrap- 1236 million Manat.
- Construction of hydroposts on the river Amu Darya in Daragnatin etrap and in Lebap velayat - 262,7 million Manat, also on Interstate collectors of Ozyorniy and Daryalik in Dashoguz vilayat 230 million Manat.
- On construction of objects of water supply of Dashoguz has been mastered 2498 million Manat.

Due to the state capital investments in the sum of 28876,6 million Manat works have been lead on:

- Reconstruction of Daryalik and Ozyorniy collectors - 119819 million Manat, that has provided Commissioning collectors of 113 kms;
- construction of Main Shakhsenem collector for the sum of 14617,6 million Manat, that has provided Commissioning of 10 kms. collectors;
- Reconstruction of objects of water supply in etraps of Dashoguz velayat of Dashoguz city, for the sum of 4310,2 million Manat, that has provided waters in operation of 28 kms, water supply systems, chinks of potable water with water-feedback up to 3,6 thousand m3/day, the tank of pure water in capacity of 500 m3 and two slating installations by the general capacity of 75 m3/day;
- Reconstruction of the main left-bank collector in cost of 4199,4

million Manat, that has provided Commissioning of 43,5 kms.of collector;

- Construction of objects of electrosupply in etrap of Dashoguz velayat on 1358 million Manat, that has provided Commissioning a line of 35 kms an electricity transmission.

Simultaneously due to budgetary funds the works spent BWO "Amu Darya" on support in an appropriate condition of large water fence constructions on the river Amu Darya were financed, for these purposes is spent 15397,0 million Manat.

Except for that , in 2001, from means of the state budget have been financed and executed the works on a component C " Safety of dams " GEF programs , in the sum of 619, 7 million Manat .

In 1999-2000 Committee on sanitary - cleared water supply at the Ministry Cabinet of Turkmenistan from the credit of the World Bank (30,3 million US dollars) works on realization of the project " Water supply and sanitary of Turkmenistan " proceeded. Tasks of the project are improvement of water supply and a sanitary condition about seven etrap centers and nine daykhan associations of Dashoguz velayat, that will allow to supply 108,0 thousand consumers with good-quality potable water constantly.

For the supply of the population with qualitative potable water, settlements appropriate sewer systems, there was develop the plan for development of the Centralized water supply and sewer systems for the period till 2010.

For the Dashoguz branch of the IFAS 10 motor vehicles of "First aid" and 30 motor vehicles of water carriers are allocated gratuitously. By the account of granting help of the government of Denmark in 1999 for Dashoguz velayat, is allocated 40 thousand US dollars on purchase of necessary medicines for hospitals.

The Dashoguz branch of the IFAS renders the charitable help to Children's house, the House for aged and invalids in Dashoguz city.

Big support to Dashoguz velayat is rendered by the International organizations. First of all UNICEF and the World Bank. Due to means of the charitable help in Turkmenbashi etrap the factory of potable water is constructed. The UNICEF within the framework of the project of the ecological and regional help in Priaralye, for establishment of a

primary link of public health services, has put complete sets for nurses, autoclaves, medical products of the first necessity, antibiotics, ferriferous tablets for feeding mothers. There are carried out actions on effective treatment of children's illnesses, desalters of potable water in preschool establishments are established, curriculums of the medical personnel are created. Due to the credit of the World Bank construction of factories of potable water and desalters in 7 etraps, 10 daykhan associations and 2 schools is planned, design and exploration work are started. Dashoguz ecological clubs carry out the big propaganda activities among the population on various aspects of wildlife management, ecological education of young generation, popularization of ecological knowledge. Experts of the Ministries of Education, public health services, culture, and also by sanepidemiology, were published materials on sanitary education, hygiene and health protection , conversations and seminars among the population and in mass media are carried out. In Turkmen Priaralye, since 1999, there was carried out the project by the GTZ " Support of private business in Goregoli etrap and in Dashoguz city". The Purpose of the project improvement of an ecological, economic and social situation in region, increase of a standard of life of Dashoguz velayat population. For preservation of the environment and in particular atmospheric air, creation of a favorable microclimate, decrease in negative influence of wind erosion, will be of great importance works on foresting.

Joint-stock company "Gek-Gushak" (Green belt) are carried out forest and irrigational works in Geroglin etrap on the area of 14306 hect. and in etrap named by S.Nijazova on the area 451 hect. Will be planted about 15 thousand trees. The project "Sanitary and water supply in Dashoguz velayat" is realized. The Important role in the decision of problems of saltened lands, pollution of water resources, rise of a level of subsoil waters and floodings of the irrigated lands and deserted pastures should play the created, under the decree of the President of Turkmenistan, Turkmen lake in Kara Kum . There was spent 79640 million Manat for this construction.

The government of Turkmenistan invests significant means in nature protection activity of Turkmen Priaralye. There are accepted

and realizing the decisions of : " Strategy of socially economic transformations in Turkmenistan for the period till 2010 ", the National program on preservation of the environment, the National program on improvement of social and economic conditions in Priaralye zone, the Program of actions on struggle against desertification, strategy and a plan of action on preservation of a biodiversity, and the State program called "Health".

All these programs provide necessary actions on preservation and maintenance of sanitary-and-epidemiologic conditions, creation social and economic, legal and other preconditions for rational use of biological resources in interests of the present and the future generations.

In the conclusion it would be desirable to thank Executive Committee of IFAS for the given opportunity of placing my article in pages of the books issued by Executive Committee of IFAS in honour of anniversary - the 10-anniversaries of IFAS formation. In the article it is informed about done work of Dashoguz branch of the IFAS for ten years. Simultaneously it would be desirable to wish all structures of the IFAS of the big successes in preparation and realization of ASBP-2 in the name and for the blessing of people and especially for Priaralye population.

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INTERSTATE PROBLEMS OF MUTUAL RELATIONS BETWEEN IRRIGATION AND WATER-POWER ENGINEERING IN THE CENTRAL ASIA AND ARAL SEA CRISIS

Crisis of Aral Sea is only the most seen part of all environmental problems of region of last time. These problems have arisen and were showed above on flow of the rivers Amu Darya and Syr-Darya, in zones of formation, transit and dispersion of their drain. There there was a main withdrawal of a drain, its pollution and degradation of the grounds. Drying of Aral Sea is consequence, instead of the reason of these processes. Accordingly and in the decision of a global problem of the Aral Sea crisis it is impossible to be limited only to a zone of the Aral Sea and even Priaralye. It won't be a treatment of the illness, but only its external displays.

In itself the situation in a zone of Aral Sea is not something that exclusive for world practice, more likely it even is typical for it. Difference consists only in the sizes.

Now in the world exists about 300 International river basins (in 1991 there was 250). As one of examples it is possible to result a river basin Indus in which two countries - India and Pakistan are located. After their division the situation appeared in any measure similar to a situation in a river basin Syr-Darya, but with smaller quantity of participants: heads of irrigational channels have been located on territories of India, and the files of an irrigation suspended to them - in territory of Pakistan. In result the situation has got the extremely dangerous character, the conflict threatened to develop in military actions. Only intervention of the World Community, first of all World Bank, has allowed to unload it. With the help of World Bank in 1952-1959 necessary preparation has been lead and in 1960 the Agreement between India, Pakistan, World Bank and donors about sharing water resources of the river Indus is signed. It agrees to it, the western inflows of the river Indus originating in India, are given

to Pakistan, and eastern to India. The contract already during 40 years is well carried out. For World Bank it is the unique case successfully finished and well functioning. But even in this case there are certain costs - Pakistan, being based on this contract, forbids to India construction of any HYDROELECTRIC POWER STATIONS in basin that can create the certain problems in the future.

As one more example in the same region it is possible to name a river basin Ganges touching interests also only of two countries - India and Bangladesh. In 1975 in India, despite of official objections Bangladesh, has constructed hydrounit Farakka on the river Ganges and with the help of a water basin included in its structure began to carry out reregulation a drain with water drainage during a dry season on the territory on the river Hooghly. After the complaint from Bangladesh side in the United Nations, as a result of joint efforts in 1977-1982 it has been prepared, and in 1983 the frame Agreement providing norms of water-division between India and Pakistan within 3 months of a dry season (March, April, May) is signed. Unfortunately, almost right after it, action of this agreement has been stopped. And only in 1996 the Contract between India and Pakistan on the same conditions, for the period of 30 years which operates till now has been again signed. Thus, the decision of this question needed almost 20 years. Thus it is necessary to note, that the coordinated, adjustable volume of water-division between two these countries makes only 1 % of the general river drain.

Even more difficultly a history of formation of mutual relations in a river basin Mekong in which territory it is located six countries - China, Vietnam, Laos, Thailand, Cambodia and Burma. In 1957 under aegis of the ESCATO between Cambodia and Laos, Vietnam and Thailand was signed the agreement and the Committee of Mekong in cooperation and coordination of planning of water resources of Bottom Mekong basin, with secretary in Thailand is created. In 1992-1994 Thailand, without the coordination with other countries, has decided to carry out the partly change a drain of the river Mekong to their territory to the river Chao Praia. In result there were serious disagreements, thus even the Secretary of Committee of Mekong has been sent from Thailand. After that only as a result of active intervention of the organizations of the United Nations and allocation by donors of support in volume more than one billion

dollars has been again created the Commission on the river Mekong and the frame Agreement is made. It is possible to note, that all questions at issue have been removed from this Agreement, in particular - about pollution of a river drain. Thus all sides of the Agreement constantly showed readiness for mutual cooperation and always acted on external front from uniform positions. By the way, only due to this the project of Mekong could get so large financial support of World Bank.

These examples show, what even in the richest regions formation of mutual relations between the countries on sharing water resources of transboundaryed basins is connected by an atmospheric precipitation to the big problems, to overcome which up to the end, as a rule, is not possible. Especially it concerns to droughty areas. Frequently the situation there becomes similar to what has developed today in the Central Asia.

Characteristic example of it is the lake Chad in Africa. For 30 years as a result of a heavy use of water on an irrigation and reduction of inflow to lake during monsoonal rains, there was its almost full drying. From 1956 up to 1994 the volume of the water annually following from lake has decreased from 54 km3 up to 7 km3, and its area from 1960 up to 2000 has decreased in twenty times - from 26km2 up to 1,3 km2. The lake Chad today- as a matter of fact is African Aral Sea. For its rescue in 2001 the special fund has been created at a rate of one billion dollars with the purpose of bringing in lake of a part of a drain of the river Congo, the length is 2400км.

In droughty regions there can be problems even between the countries with sustainable, centuries-old traditions of managing. As an example it is possible to result a river basin Nile. During already several thousand years the main irrigated grounds of basin were in Egypt, and only in small volume in Sudan. Hundred years ago between these countries the certain arrangements on water-division have been achieved. Thus Ethiopia as the volume of its water consumption did not exceed 1 % of the general resources at all times was completely ignored. But in territory of last the main drain of the river Nile - 86 % is formed. In the beginning of 90th Ethiopia has declared the intention to increase the irrigated areas in the country and, accordingly, own share of water consumption. Since 1992 as a result of it the program Nile initiative (for the first time with participation of Ethiopia) has been started. Negotiations on formation

of the common vision of position and haven't been lead to another main questions . The problem has gone to impasse, and only creation recently the International consortium and the promise of donors about allocation of the financial help in volume 140 million dollars could make active it a little. But any practical results till now are not achieved.

At all complexities and lacks which had and take place in the above-stated examples, formation of mutual relations between the countries participants occured always if it is possible so will be expressed, civilized way, as a result of negotiations and signing of agreements, let even sometimes and with some delay. Unfortunately, in world practice such approach not always takes place.

Very important example in this respect for us is the situation, developed in last decades in basin of the rivers Tiger and Euphrates. In 80th of the last century Turkey has constructed and began to fill in a water basin of hydrounit Keban, and in 90th - hydrounit Atatyurk. And last is the fifth hydrounit on size in the world. In result water delivery in the countries located below on current - Syria and Iraq - was reduced to 40 %. (with more than 700m3/sec. up to 500m3/sec.) . Turkey unilaterally, even without the corresponding notification of neighbours has carried out all this. Thus, Turkey in usual order, without the conclusion of any contracts and agreements, had been made very essential redistribution of a water drain to own advantage. And this situation has been recognized by World Community quite easy. The International experts have specified in this connection that the "historical" and "got" rights on water cannot be accepted as determining, and should be taken into account simply as one of factors on which it is necessary to pay attention for achievement of equal in rights using by the countries by resources of transboundaryed rivers. The International examination has specified, that " the State located in the bottom current, the first using the water resources, could not predetermine late development of the state located above on current and to prove, that later development of the last will harm it ". Moreover, the International examination has specified concerning Iraq, that last, being based incorrectly on the "historical" and "got" right, shows to Turkey unreasonable claims instead of carrying out of bringing a drain of the river Euphrates in the river Tiger which would solve a problem, having compensated the deficiency of water resources formed as a result of actions of Turkey. The reference of Syria in the Commission on International law

was useless(International Law Commission, ILC) . In result, today Turkey is going further to operate in the same way and to carry out construction of 22 more dams for regulation of a drain of the rivers Tiger and Euphrates.

The similar situation can arise today and in a river basin Irtysh, proceeding on territory of three countries - China, Kazakhstan and Russia. China unilaterally began construction from the river Black Irtysh in the territory of the 300-kilometer channel with selection of water for maintenance of development of Karamay oil field in Sintzyan-Uigur independent region. Selection of water thus according to some information can make from 2,2 up to 3,6 km3/ year that makes from 15 up to 25 % of the general drain of all river basin Irtysh. As much as possible Kazakhstan could achieve that are the beginning of negotiating process, without any concrete results. In a result, under the available information, China plans to begin in the near future realization of the similar project in another transborcered river - Ili.

Something similar can arise and between our neighbours - Afghanistan and Iran in river basin Gilment. In 1973 Afghanistan has transferred all rights to its drain, in volume of 26m3/sec. to Iran. But since 2001 submission, to the last, of water has been stopped without the coordination and even notices. As the first measure Iran has addressed then, in 2001 with the complaint in the United Nations, but still it is ineffectual.

The resulted analysis shows, that problems of a water-economic complex of transboundaryed rivers inevitably have Interstate character. To consideration of these questions is devoted this article.

One of main question is the property on water resources and their use.

Historically, originally all states observed a principle of the absolute sovereignty in using the rivers and other natural resources located within the limits of their territory, irrespective of, what consequences of this use for the neighbour states. This principle of the absolute territorial sovereignty called Kharmon Doctrine. In 1895 Minister of Justice and the general public prosecutor of the USA Kharmon has put forward idea of the absolute sovereignty in dispute between the USA and Mexico concerning pollution of the river Rio Grande. Kharmon has declared, that the International law does not impose any obligations or the responsibility on the USA and, hence, dispute is political, as against the legal issues solved between the countries. According to Kharmon

Doctrine, the upper layed countries can freely exhaust or use resources of the river within the limits of the borders without taking into account consequences for the down layed countries. This legal doctrine today is considered as anachronistic and narrow representation about settlement of disputes between the states concerning the common natural resources.

What rights actually have the states on water resources and their use? The most general position on this account contains in the resolution 1803 of General Assemblies of the United Nations from December, 14, 1962:

"The right of peoples and the nations on inalienable sovereingt above their natural resources and resources should be carried out in interests of their national development and well-being of the population of the corresponding states".

This position is confirmed in the constitutions of all republics of the Central Asia developed on the basis of the International standards. There are completely precise, unambiguous positions on this account. For example, in article 13 of the Constitution of Tajikistan it is written down:

"The Earth, its bowels, water, air space, animal both flora and other natural resources are a sole property of the state, and the state guarantees their effective use in interests of people".

It speaks about practically natural right in our conditions of the states - owners of water basins on the modes of their work necessary to it. And the Geneva convention on influence of manufacture of hydraulic power on other states from December, 9 1923г., article 7,Confirms it :

"Installation and operation of constructions for development of hydraulic power in territory of each state should correspond to laws and the rules used for installation and operation of similar constructions in that state".

Summarizing all above-stated it is possible to come to a conclusion, that according to all sources known to us, the International norms do not impose any restrictions on the right of the sovereign states on use in own national interests of the water basins taking place in their property and located in their territory.

Finally, in view of it, the main principle determining the rights of the states on use of water-power resources and their mutual relation with each other, is possible to formulate as follows:

The sovereign state possesses all rights on a unconditional

establishment on belonging to it and the water basins located in its territory, anyone, corresponding to its national interests, modes of regulation of a river drain.

In case these modes mention or contradict interests of other states of basin, the state - owner should, as agreed with them, to change operating modes of the hydrounits for the benefit of these interested states, with granting to it from their side of corresponding indemnifications.

These are the most general principles. In concrete conditions they can be limited. In such conditions there are today republics of the Central Asia. All International norms on which references were made above, were developed for "standard", if it is possible so, will be expressed situations. In our conditions has taken place cardinal brakage of all structures of a water management and power for which they were under construction and in which were maintained. It is possible to assume, that in these conditions, by virtue of big inertanceof these branches they should feel the certain pressure of the last decisions. And it is really so. It is marked in article 1 " Agreements between Kazakhstan, Kyrgyzstan, Uzbekistan and Turkmenistan about cooperation in sphere of a joint management of use and protection of water resources of Interstate sources " (without Tajikistan), signed in Alma-Ata on February, 18 1992 , where equal rights of all countries on use by water resources are declared:

"Recognizing a generality and unity of water resources of region, the Sides possess identical rights of use and the responsibility for supply of their rational use and protection".

It is even more particularly marked in Nukus declarations of the states of the Central Asia and the International organizations on problems of sustainable development Aral Sea basin (Nukus, September, 20 1995) which all earlier signed contracts and agreements on water resources admit by all Central - Asian states:

"We agree that the Central - Asian states recognize earlier signed and acting agreements, contracts and other statutory acts regulating mutual relations between them on water resources in Aral basin and accept them to sustainable performance".

Formally it as though speaks about impossibility of the states independently to operate use of water resources in the territory. Signed earlier, during existence of Soviet Union, the contract took into

account only the common benefit and rigidly regulated rules of management of operating modes of water basins and a uniform power system of Central Asia.

But it is necessary to take into account, that in this, before working system there has been sti pulated the system of indemnifications also. For example, all water basins were unequivocally maintained in an irrigational mode for maintenance of an irrigation of the grounds located mainly in Kazakhstan, Turkmenistan and Uzbekistan. But Kyrgyzstan and Tajikistan for it carried out a unobstructed exchange of the electric power with these countries in winter and summer and received from them mineral fuel, production of an agriculture and other kinds of indemnifications.

But agreements, even International not laws of the nature, which operate eternally. Agreements operate in time, they consist as required and are terminated when this necessity passes. It is very precisely written down in the Helsinki rules, in article 8:

"Existing reasonable using can proceed in operation while the factors justifying its continuation, prevail of other factors, leading to the conclusion, that it should be changed or stopped to settle competing incompatible usings".

It is obvious, that in today's conditions necessity to be guided in water resources management by decisions and agreements of the period of the USSR by virtue of their internal logic does not exist any more. Signed Nukus declaration has been caused by aspiration to not break, and smoothly to reform system, do not admit anarchy, and to provide continuity in decisions, that, certainly, is justified only fo that time.

Problems of the property between the countries of the Central Asia exist today not only concerning water resources, but also is direct concerning water objects. This was promoted in any measure by signing on October, 9 1992. in Bishkek Agreement " About a mutual recognition of the rights and regulations of attitudes of the property ", establ ished two approaches concerning the property rights to objects of one state located on territory of another, depending on that from what sources - republ ican or all ied objects were financed. In practice all appeared much more difficultly. As an example it is possible to result Tyuyamuyun hydrounit belonging to Uzbekistan, but located on territory of Turkmenistan, the Andizhan HYDROELECTRIC POWER STATION

which is taking place in the property of Uzbekistan, which water basin floding the grounds of Kyrgyzstan, Farkhad hydrounit, which water-intaking dam is placed in Tajikistan, and HYDROELECTRIC POWER STATION - in Uzbekistan, the Uzbek electric mains, including LEP-500kw., crossing territory of Tajikistan and many others.

In these conditions all mutual relations between the managing subjects belonging to the different states, in the relation as Interstate objects of joint using, and all transboundaryed water basin as a whole, can be carried out only within the framework of agreements and contracts.

Somehow to a question of the property on water adjoins also a known problem transboundaryed waters. "Transboundaryed waters " according to Helsinki" Conventions on protection and use of transboundaryed water-currents and the International lakes " 1992r. are defined, how any superficial or underground waters which designate, cross borders between two or more states or are located on such borders ….

This definition is not settled and standard in world practice. Already in " the Second report under the law on non-navigable use of International channels " 1994. The Commissions on International law, instead of it the concept " the International channel ", which means a channel which parts are located in the different states, and in " Conventions on the right of non-navigable kinds of use of the International water-currents " 1997 instead of the term " transboundaryed waters" is used the term " the International water-current " which means a water-current which parts are used in the various states.

In the state legislation of Tajikistan definition "transboundaryed waters" also is not used, it is replaced by " transboundaryed water-currents ". The certain distinctions in interpretation of this term are and in other republics of the Central Asia.

Besides Tajikistan has not joined the Helsinki Conventions in 1992 and 1997. All this makes ambiguous reference of the concrete rivers to categories internal or transboundaryed and results to disputes.

Such disputes have no main value. It is possible to be convinced, that all above-stated definitions are based only on a geographical arrangement of the river and do not bear in itself any unconditional obligations on their use.

And such obligations do not contain in these Conventions. They have

frame character and the positions of fair and reasonable participation established in them, the conscientiousness, appropriate protection, prevention of drawing of significant damage to other states, achievements of optimum use, absence of the integral priority among all kinds of using carry the most common, even declarative character.

Real interest represents only a question of sharing of objects of Interstate value. Practically all objects of a water-economic complex working today in republics of the Central Asia, were under construction during existence of the uniform country - the USSR. Thus largest of them had complex purpose (manufacture of the electric power, water supply, protection against flooding, recreation, etc.) and were used in interests at once several republics.

This was promoted also by that, as a rule, such objects were erected not paying attention on existing borders between union republics.

Interest in such circuit of use of these hydrounits was kept and after disintegration of the USSR and formation in the Central Asia the new independent states. Certainly, all these objects on the functional features should be recognized as objects of Interstate value. The simplified and any interpretation of this concept when the separate countries not only independently give the status of Interstate objects to the constructions is inadmissible only, but also define the size of individual share of other countries in their operation. For giving objects of the status Interstate need a corresponding legal and economic substantiation.

The legal substantiation should consist of three steps. On first of them all sovereign states of the Central Asia should carry out inventory of the water-economic objects and allocate from them what, in their opinion, have Interstate value, simultaneously defining functions corresponding to these. On the second step all these countries of the Central Asia should define the interest in work, production and services of the objects located in territory of other states. And, at last, the third step mutual should be the discussion of the lists of objects received as a result of two first steps and the main coordination of the final list of objects of Interstate value.

The following important question is the economic mutual relations between the states in water-economic sector.

Eventually, all mutual relations between managing subjects, both inside the state, and between the states have economic character. It is not

an exception of the regulation of a drain of transboundaryed rivers. Complexity here that concerning water resources and their use till now it was not possible to establish any simple economic circuit, for example such as sale and purchase. Certainly, it is connected and to features of a used product - waters - both with historical traditions and with modern conditions. But, the most important that, despite of long-term experience, all participants of process do not have uniform unequivocal understanding even the most economic essence of regulation of a river drain, not speaking already questions of pricing where the disorder of the various points of view simply marvellously wide.

As one of extreme it is possible to result the point of view stated frequently in the countries of a zone of drain formation according to which it is offered to recognize water as a good, to establish its economic cost and to charge price. At all of its simplicity should recognize such approach unreal, anyway, for today. First of all, water in the river does not possess the main properties of the goods. It is impossible not only to store, pack it, but even to identify, mark.

According to other existing opinion, water should not be paid , as the good, but the direct operational expenses, losses and the missed benefit connected to flooding of the grounds by a water basin, ecology, etc., should. In this case cost of water is defined by the costs transferred on it. Though thus the problems, connected to water as the goods, are removed, but at once appear others, not less difficult. First, for all existing hydrounits of complex purpose if not it is impossible practically it is very difficult to allocate the elements providing delivery of water from the general complex of constructions and to define their cost and operational expenses. For example, how to determine for what serves waterpipe line turbine path of HYDROELECTRIC POWER STATION - for development of the electric power or for delivery of water? Or what provide emergency spillways - delivery of water or protection from overflow of waters through a dam? Even more difficultly a question with a channel of the river and available on it bank protection constructions, and also with flooding the grounds. And, at last, even solved all these questions, not clear what there should be a general circuit payment of compensational operational expenses for separate participants: on current the hydrounit water does not deliver the lowermost to anybody and therefore it is not

necessary to compensate it, but it receives water past through all overlying hydrounits and consequently to all of them should compensate all operational expenses. Certainly, it is absurdity, but also any other such circuits also it is not better.

Clearly, that all these offers considered above are too exotic that they could be applied in today's practice. But also the circuit of mutual relations existing now between subjects of an Interstate water-economic complex: " On regulation of a drain - indemnifications ", it is impossible to leave services without change. Really, according to this circuit, today the only compensation to Kyrgyzstan and Tajikistan from Kazakhstan and Uzbekistan, is excessive electric power of Toktogul and Kayraqum HYDROELECTRIC POWER STATION, developed by them in the summer at work of hydrounits in not optimum for republics an irrigational mode. As a matter of fact, it simply an exchange of the electric power. Delivery of water is carried out thus without any indemnification, gratuitously. Moreover Tajikistan even pays extra for it: according to intergovernmental contracts concluded in 1998-2001 between Tajikistan and Uzbekistan, for regulation of Kayraqum drain water basin, Tajikistan receives for it in winter only 200 million kWt./h. of electric power, and giving 300 million kWt/h. It is possible to solve these contradictions only in economic methods.

The most different economic mechanisms of interaction between the countries and managing subjects in sphere of sharing of water-power resources are essentially possible.

Apparently, one of the best variants for this purpose is the variant of the joint property. It could not only to solve in the most painless way a question of complex use of a water drain, but also to serve the purposes of association, integration of the states. Absence of such problems in the former USSR was the common property. It, instead of ideology, a politics, etc.Only this was the reason of unity of peoples of the USSR, and the division of this property, brought to consequence of having dug economic relations, and it is the reason of today's economic difficulties in the countries of CIS. The general property of the countries of the Central Asia can be generated at construction of new objects, and also in result actioning of already working. But this is the work of the future.

Today, the most real and proved variant of the coordination of interests

of irrigation of the countries of a lower reaches of the rivers and power of upper situated countries is the circuit of indemnifications.

In the general view this variant looks as follows. The countries of a zone of formation of a drain as base for calculation of indemnifications develop a national treatment of work of the hydrounits (Kyrgyzstan - for Toktogul, Tajikistan - for Kayrakum) without taking into account interests of lower situated countries. Then they develop the second variant of operating modes of the same hydrounits, but already in view of interests of the countries of a lower reaches. An economic difference between two these variants, losses and the damages connected to transition from the first variant to second in monetary or the physical expression also define necessary volume of indemnifications.

In these indemnifications it is necessary to take into account all losses, damages and expenses. It corresponds to a known principle of WTO " the user pays " (UPP). This principle recognizes that in the price for natural resources all kinds of the expenses connected to their use, including expenses for liquidation of influences for an environment should be taken into account in connection with operation, processing and use of the given kind of resources.

By the way, as to other principle, " pollutant pays " to which frequently refer in our contries considering it in 1987. The panel for resolution of disputes of GATT has come to a conclusion, that it, though is accepted by the countries OESR on a voluntary basis, is not principle of GATT. As an explanation of such position of GATT that the principle " pays pollutant " is discrimination for national manufacture, forcing him one to carry all expenses.

Here it is necessary to make one more remark. As a matter of fact, the simple difference between these two modes defines only the cost price of services on regulation of a river drain. For definition of the price of these services it is necessary to add some norm of profitability to the cost price.

Another is economic also, frequently used argument of International law, its most known position "do not do much harm". In our case it also cannot be recognized proved. Abundantly clearly, that this principle should operate not only concerning other countries, but also concerning the country which is carrying out any actions. Working in not optimum mode for itself, the state "harms" to itself. Besides in case of default by

other side of the obligations, its actions of the dissatisfied party in this case will be only reciprocal. Such reciprocal actions will simply protection of the interests. The substantiation of the rights to such reciprocal actions can be found in the Muslim right about land tenure and water use in which it is written down: If the owner of water will want to prohibit to somebody to use water, and requiring for water is afraid for itself or for the cattle he has the right to struggle with the owner of water the weapon, as that, refusing in water, dooms him to destruction (Fath-al Qadir, t. IX, page 13 and Ibn Abidin, t. V, page 313).

The only thing, that in this case according to International law is obligatory for the victim as a result of infringement of agreements of the side is a duly informing and the warning of all other sides of the intentions and the further actions.

Very interesting variant of economic relations for sharing objects of Interstate value is the water-power consortium which idea of creation for the first time has been stated by the President of Kazakhstan N.A.Nazarbaevym in 1997.

Unfortunately, despite of the big work which has been carried out by republics under aegis of Executive Committee of CAES in 1997- 2000, the first attempt of creation of such consortium appeared unsuccessful. One of the reasons of it was that thus was supposed the creation of such consortium not as commercial , but as administrative and managerial structure, to which would be subordinated all, already, existing national and Interstate organizations of the given structure (the ministries of a water management and power, ICWC, BWO ODC). It would lead to to simple complication of already available circuit of management. It would be easier to expand powers of already available structures.

But a principal cause of failure of the first attempt of creation of a water-power consortium was intention to transfer to the possession of it all corresponding objects of a water-power complex. Certainly, any of republics of Central Asia to this was not ready.

It is represented, that more real could be creation of a water-power consortium as the commercial organization. Its primary goal thus would be the coordination of interests of power and irrigation due to maintenance of mutual indemnifications. It could look as follows. A consortium, ensuring the functioning into HYDROELECTRIC POWER

STATION of Kyrgyzstan and Tajikistan in an irrigational mode in interests of the countries of a lower reaches - Kazakhstan, Turkmenistan and Uzbekistan, make purchase at them passing with water and the excessive electric power for them under the prices providing an opportunity to compensate them their losses and giving to them an opportunity in turn to buy the same amount of the electric power in winter, during the most scarce period. For this purpose the price of the summer electric power which will buy the Consortium from Kyrgyzstan and Tajikistan should be higher market during this period. This difference in the prices of the summer electric power should become covered to the Consortium for the account of agricultural producers, receiving thus water necessary for them. Payment of delivery of water by them could be made in a monetary or natural kind. The coordination of all these questions and an organizational Interstate part of work could be provided thus with already working Interstate organizations, under aegis of ICWC,

One of most complicated questions of mutual relations between the countries of the Central Asia in the field of use of water resources is water-division - distribution of the common resources between the countries of region. It causes the sharp disputes, and frequently and mutual suspicions. But especially, there is an important necessity of its open discussion and development of the common principles of the decision.

Today positions of Uzbekistan, Kazakhstan and Turkmenistan in this question consists in the requirement of preservation of existing limits of water-division and allocation of additional limits for Aral Sea and Priaralye. A position of Kyrgyzstan and Tajikistan - in revision of these limits with increase in the share (not for today, but in the long term). Thus Kyrgyzstan and Tajikistan demonstratively prove the requirements on increase in limits of water resources that they during existence of the USSR, valid quite objective reasons, have been deprived at water-division, but received for it indemnifications. In result, they have the smallest, in comparison with other republics, the specific area of the irrigated ground by the person and due to own manufacture of agricultural products cannot provide to the population even a minimum level of consumption.

Does not cause doubt and validity of requirements of the countries of the bottom current about necessity of increase in limits of water resources for Aral Sea. By the way, in this respect with them were always agree both

Kyrgyzstan and Tajikistan as the today's situation in a zone of Aral Sea negatively influences on them. It is connected to dusty and salty winds from territory of the former sea which are distributed down to glaciers and cause their intensive thawing. Causes objection only allocation as the additional water-consumer alongside with Aral Sea also Priaralye. Apparently, it simply attempt to increase own limits. To exclude it and besides taking into account, that today there is no reliable and objective control over an expenditure of water inside separate republics, can be meaningful eliminate as water-consumers not only Priaralye, but also Aral Sea and instead of it to establish limits to Uzbekistan and Kazakhstan with their account. And, certainly, it is impossible to agree with the equal responsibility of all states for "drying" of Aral Sea and their equal participation in allocation to it of water limits. Such limits should be created first of all by republics which in 60 - 90th years due to sharp increase, at themselves, the irrigated grounds also have sharply reduced inflow to Aral Sea, that is Kazakhstan, Turkmenistan and Uzbekistan.

Sometimes as argument for preservation of existing water-division and republics of the bottom current of Aral Sea basin the "historical" right also is put forward. Above we already concerned this question. In our case such approach is even less proved. To be really "historical", such right, at least, should be based on the long period, as, for example, in a case with Turkey, Syria and Iraq where the last in the requirements leaned on 4 thousand-year, starting from Shumer civilization, existence of irrigation in the territories with approximately same volumes of an irrigation. As against it, Kazakhstan, Turkmenistan and Uzbekistan lean in the requirements only on a situation of 80th years of the last century. Thus, attempt to fix in quality of the "historical" right achieved all once in a history the maximal quotas, and achieved in the period which all republics of CA, both now, and already during existence of the USSR have unequivocally recognized erroneous concerning use of the water-power resources, resulted to ecological accident of Aral Sea is done.

The contradictions existing in region directly in connection with questions of limits of water-division, separate experts, and, first of all foreign, suggest to solve the help of increase of efficiency of use of irrigation water, efficiency of an irrigation. Hopes for it are appreciably exaggerated. Such reforming of water-economic sector demands huge financial assets,

today, both at Kyrgyzstan, and at Tajikistan they do not suffice even for normal operation of the water-economic objects. Resulted more often for a substantiation of such approach the example of Israel will simply disorient. Israel presumes introduction of the most advanced, modern technologies as behind it stands the USA and other western countries with all economic power. Our republics do not go in any comparison with Israel concerning attraction of external investments.

Thus, the unique decision of a problem of water-division in region, is a revision of existing limits. And in it, in general , there is nothing usual. In modern conditions as world practice shows, limits, needs on water are the most mobile, changeable element of mutual relations between the countries. They are defined by concrete conditions and strategy of development, dynamics of the population and much another, depend on reforms spent for the states. As the good proof of it Kazakhstan can serve. From 1998 up to 2001 its requirement on water during the vegetative period in a river basin Syr-Darya due to carrying out of market reforms and the revision of structure connected to it agricultural culture already has decreased from 1100mill.m3 up to 700mill.m3. Necessity of change of existing limits of water-division is connected and to a situation in the neighbor Afghanistan. After stabilization of conditions in Afghanistan, it has designated the requirements of water in a river basin Amu Darya in volume up to 25 km3/year. Today in water-economic balances of region, these volumes are not taken into account in general.

Well and, at last, revision of limits of water-division between the states of the Central Asia is necessary even simply because they, till now, legally are not fixed at all. Limits working today are established by Reports of scientific and technical Councils of Ministry of Land Improvement and Water Conservation of the USSR in 80th years of the last century. Even at that time they carried not state, but only departmental character. Today, when there is niether Minvodkhoz of the USSR exsisting, nor the Soviet Union, they simply have no any validity. Certainly, it is necessary to realize, that revision of limits, it is a complicated question demanding very cautious approach. But on the other hand any attempt of it to break off will aggravate a situation, and, finally, even more can result and to conflicts between republics. And besides requirements about revision of limits of water resources on the part of Tajikistan, Kyrgyzstan and

especially Afghanistan as already was marked, concern not to today, but to the remote prospect.

It is possible to offer and rather painless mechanism of revision of existing water-division for the benefit of earlier deprived countries of Tajikistan and Kyrgyzstan. Additional limits of water for them can be received not due to direct reduction of limits for other countries (Kazakhstan, Turkmenistan and Uzbekistan), and due to reduction of consumption by these countries of water at introduction of more effective technologies, but preservation thus of the former areas of an irrigation.

Serious problems are available today and in managements of a water-power complex of basin, both on regional, and at national levels. At a regional level, first of all, there is no permanent common managing and coordinating center. Managements that taking place today at the top level of ICWC with SIC ICWC and ODC "Energy" are essentially limited in the rights and besides function by different principles: ODC "Energy" is an agency optimizing performance of applications of the national power companies, and ICWC has kept in any measure (or tries to keep) command functions. And, the most important, they do not cooperate with each other. In result there is a paradoxical situation. All operating modes of hydrounits of Aral Sea basin are developed and affirm ICWC (with BWO) without participations of energetics. And these operating modes practically all main hydrounits by energetics, without participation of representatives of a water management are realized.

One more lack of these organizations is that they, having the status Interstate, mainally do not provide at themselves neither rotation of the managerial personnel, nor participation in work of experts of other republics. All of them settle down in Uzbekistan, mainally in Tashkent and are generated for hundred percent by the national staff of Uzbekistan.

There is not better a situation in the countries. Here too there are no common countries managing centers and coordination of water and power branches are failed neither in strategic, nor in an operating plan in here.

As it was already marked above, it is unique real today the mechanism of formation of Interstate relations in water-power complex of CA contracts and agreements are.

Unfortunately, by present time republics of CAES managed to sign

only one Bishkek "Agreement between the Government of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan about use of water-power resources of a river basin Syr-Darya" from March, 17 1998.

The similar Agreement on river basin Amudarya, prepared by the Tajik side also in 1998 and repeatedly dispatched to all other republics, never was not considered at all.

Other regional Agreements on a water-power complex, including prepared by regional organization SIC ICWC though were considered and discussed repeatedly, also are far from signing, as well as the Agreement on the river Amu-Darja.

In view of the made analysis it is possible to offer the following program of concrete actions which certainly will not solve unequivocally and finally all problems of a water-economic complex, but will allow to make even quite real steps in this direction. Its main positions are:

1. Inventory of all contracts working between the countries of CAES, agreements, contracts, etc. in the field of use of water-power resources; their joint analysis and development of offers on improvement of norm-legal base of mutual relations between republics.

2. The analysis of the International experience of mutual relations between the states on sharing of water-power resources of transboundaryed rivers.

3. Development of national models of optimization of use of water-power resources and offers on methods of their coordination with other countries.

4. Development of offers on creation local (for separate hydrounits) and departmental databases and the mechanism of an operative information exchange between them.

5. Development of offers on creation of the Interstate commercial enterprise on realization of mediatorial functions (delivery of water for agricultural use, seasonal overflows of the electric power between the states) for the countriesof CAES with the purpose of performance of intergovernmental agreements on sharing of water-power resources.

6. Development of offers by possible variants of coordination of positions between countries and their concrete actions on short-term and long-term prospect.

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CONDITION AND PROBLEMS OF SHARING OF TOKTOGUL WATER BASIN IN THE CENTRAL - ASIAN REGION

Mutual relation between branch water and fuel and energy structures of Kazakhstans, Kyrgyzstan and Uzbekistan, regarding regulation and uses of water resources of the river Naryn, are carried out through annually concluded contracts on mutual delivery of power resources on the basis of annual inter-governmental Agreements in which concrete standard items of the electric power are fixed, natural gas and coal in coordination with watering from Toktogul water basins.

The Complex of hydraulic engineering constructions constructed on the bottom site of a water-course Naryn in Kyrgyzstan, allows to carry out long-term, seasonal and daily regulation of a drain of the river and to use it, as in interests of power, and irrigation in region.

Taking into account, that the power mode of use of hydro resources for Kyrgyzstan will not be co-ordinated to interests of irrigation in the neighbor states, since 1995, working meetings of heads of the interested branches and regional bodies for development of the coordinated offers on the basis of which, intergovernmental Agreements annually consist began to be carried out regularly. The coordinated mode provides redistribution of a part of volume seasonal power watering from Toktogul water basins with their reduction in winter time and increase in summer.

Such mode allows to carry out to Kyrgyzstan export of the electric power in summer period and in exchange to receive fuel for thermal power stations of country.

Realization of the achieved Agreements and interaction of water and fuel and energy branches, during this period promoted substantial increase of reliability of functioning national electric

power sys-tem, and also to sustainable water delivery of consumers in a river basin of Syr-Darya.

With a view of development of mutual relation and search of ways of long-term cooperation in this area, in March, 17, 1998, the governments of Kazakhstan, Kyrgyzstan, Tajikistans and Uzbekistan signed the long-term Agreement " About use of water-power resources of a river basin Syr-Darya ".

One of conditions of sustainable functioning of the Common electric power system of Central Asia, including Kyrgyz electric power system, is providing reliability of power supply and performance of in-tergovernmental Agreements preservation in work of power ring of VL - 500 kw. and parallel work of electro power system of central - Asian states which have signed the intergovernmental Agreement "About parallel work of electric power system".

The fuel supply for thermal power station mainally is carried out on conditions of mutual deliv-eries of power resources between republics on the basis of annual intergovernmental Agreements on use of water-power resources and volumes of annual deliveries of fuel depend on hydrological conditions in basin and in need for water resources for needs of an irrigation.

Because of constant deficiency of energy carriers' participation of thermal power station in a covering of loadings, as a rule, does not exceed 50 % of its rated power.

Electric power system of Kyrgyzstan is geographically divided into two regions: northern and southern.

Northern region electrically connected by one VL - 500 kw. through PS "Frunze" with Toktogul HYDROELECTRIC POWER STATION and has restrictions, on throughput on conditions of section of wires of lines and the established equipment 220-500 kw. of electric network.

In the winter period of 2002 the maximal loading use of electrical power in north of the country has already reached 1700 Mw. which covering became a serious problem and compels to enter restric-tions into peak hours of loading.

Power supply of a southern part of region of the country is carried out from cascade of Toktogul hydroelectric power stations settling down below on current and working on a water-current after Tok-

togul HYDROELECTRIC POWER STATION which energy is transferred to substations 220/110kv Jalalabad and Osh regions which in the winter period work with overload on 25-30 %. The maximal loading in the winter period in southern region has reached 1030 Mw. and the further growth is limited also to throughput of existing networks 220 kw and 110 kw.

It is necessary to note, that stability of power supply in Kyrgyzstan in many respects depends on mode of operation of Toktogul hydrounit and presence of hydro resources in its water basin.

In conditions of their intensive use in the shallow periods and stocks workout of the water, gener-ating capacity of Toktogul Hydroelectric Power Station going down from 1200 Mw to 800 Mw and lower, as it already occurred by the end of the winter period in 1998 and 2002.

For example at formation of a power balance of 2002 it was provided according to intergovern-mental Agreements with Kazakhstan and Uzbekistan of delivery of energy carriers on thermal power sta-tion of Bishkek and thermal power station of Osh in volume:

Natural gas - 540 mill.m3;

Coal - 500 thousand tons;

Black oil - 15 thousand tons;

Because of incomplete performance of taken obligations by all participating sides owing to fa-vorable hydro meteorological conditions, in a river basin of Syr-Darya, were decreased the need on submission of water resources and overflow of electric energy in region, actual deliveries of fuel were much lower planned.

In result of not full fuel supplying, thermal power station is compelled in the winter period to carry loading within the limits of 220-230 Mwt. instead of probable 450-480 Mwt., that has in turn af-fected additional loading of the cascade of Hydroelectric Power Station and to increase winter water-ing on the river Naryn.

The Similar situation with interchange by power resources can develop and in the current year since it agrees the hydro forecast inflow of water in the rivers of Syr-Darya basin, including inflow to Toktogul water basin, it is expected above norm that can result in sharp reduction or refusal of water-consumers of additional deliveries of hydro resources from Toktogul water basin and as consequence, to

reduction or absence of overflowing of electric power from Kyrgyzstan in to the neighbor countries. And it in turn creates a problem of fuel supply for thermal power stations to forthcoming autumn-winter period of 2003-2004.

To the beginning of the vegetative period of 2003 a stock of water in Toktogul water basin al-ready makes 12.5 billion m3 at NPU design is 19.5 billion m3.

At expected inflow of water to it in summer period and work of the cascade in a mode own power use without additional watering and without export delivery of the electric power, the water basin will be filled by the end of July of the same year and inclusion of constructions of single dump of water through Toktogul hydrounit also is required.

Calculations show, that in the usual conditions the export potential on volume of the electric power from Kyrgyzstan in 2003 can make not less than 3.5 bill.kWt./ h.

However absence of the power market, economic mechanisms of interaction and an easy ap-proach to consumers in region do not allow to carry out the circuit and ways rational and an effective utilization water and fuel - power resources.

Proceeding from this the major factors influencing on sustainable power supply and formation of a power balance, are:

- Optimization of use of water-power resources on the basis of intergovernmental Agreements and security heat-carriers of thermal power station;
- Presence of stocks of hydro resources in Toktogul water basin, HYDROELECTRIC POWER STATIONS of the cascade providing nominal loading;
- Supply of throughput main VL 220 - 500 Kw.

The main source of reliable power supply of consumers within last decade in Kyrgyzstan is Narinsk cascade of Hydroelectric Power Station with Toktogul Hydroelectric Power Station which wa-ter basin is capable to carry out long-term regulation of the drain used as in power and irrigational modes.

Toktogul Hydroelectric Power Station and departing from it VL-500 kw have allowed to con-nect earlier separately working electro power system the south and the north of Kyrgyzstan and in the sub-

sequent to form power ring VL-500 kw the common electric power system of Central Asia, providing sustainable work not only Kyrgyz electric power system but also to carry out the support of necessary pa-rameters in the electric system and to provide interaction of the neighbor countries in emergencies.

Toktogul water basin allows to accumulate, adjust a drain and to provide water delivery for all HYDROELECTRIC POWER STATIONS of NARYNSK cascade not only on seasons of year, but also to optimize water-power mode of the cascade in the long-term period.

In view of an estimation of the social and economic infrastructure, created the Toktogul cascade of Hydroelectric Power Station - is the reliable guarantor of power well-being, promotes supplies of so-cial support to the population and economic development as in country, and region.

The Problem of reduction of winter watering and on the river Syr-Darya as a whole remains es-pecially actual in region within last 10 years and directly is connected to water-power mode of operation of Toktogul water basin.

The Existing intergovernmental Agreement between Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan about use of water-power resources of a river basin Syr-Darya, from March, 17, 1998, basically, solves questions of the mechanism of the interchange connected with seasonal overflow of the electric power and a mode of watering in vegetation and their indemnification, that essentially influences reduction of volumes of winter water flow from Toktogul water basins, but not completely solves the problem.

In its decision there should be a regional approach with participation of all interested sides as finally will win not only water-economic and power branches of countries, but also ecological conditions in region will be improved.

For this purpose there is already a basis as the frame intergovernmental Agreement, in-corporated by the participating sides in March, 17, 1998. In development of this document there can be an addition to it or the new document determining water-power mode of operation of water basin in a river basin of Syr-Darya, for the intervegetative period providing the appropriate economic

mechanism of in-teraction of the sides.

Unbalanced use of water resources of the river Naryn and Toktogul water basins, satisfying re-quirements of branches of power and a water management can not be infinite. Experience of past years has shown, that at an existing mode of use with approach even one shallow period stocks of Toktogul water basin can be worked out, that will result to deep power and irrigational disbalance in region.

Such real threat already arose in 1997 and 2001, however, the subsequent behind them 1998 both were abounding in water 2002 and danger full workout has receded, but the probability of recurrence of a situation is not excluded.

Attempts of reduction of cooperation in the field of water-power relations by realization of local water-economic projects within the framework of one state do not solve a problem in the radical image, and do not improve a situation, on the contrary, will complicate conditions in basin and region even more.

As a whole the energy potential of the Kyrgyzstan is estimated from above 142 bill.kWt/ h. elec-tric energy from which to present time is mastered about 8 %.

Hydraulic engineering construction first of all was concentrated on the river Naryn on the most accessible and expedient, from the point of view of that period, complex and power objects on the bottom sites which hydropower resources already are completely mastered where it is maintained five hydroelec-tric power stations: Toktogul, Kurpsay, Tashkumir, Shamaldisay, Uch-kurgan with mid-annual manufac-ture of more than 11 bill.kWt/ h. electric power.

According to strategy of development of a fuel and energy complex in Kyrgyzstan the transfer of part of the population into electric heating system, hot water supply and food preparing ness was carried out. According to a complex basis of development of Kyrgyzstan till 2010 the increase of consumption of electric energy is expected due to development of small and average business, agriculture, the mining in-dustry, tourism. In this connection the tendency of growth of demand for electric energy is in the long term observed.

In Kyrgyzstan there is a serious prospect for the further development of hydropower construc-tion. Only in a river basin

Naryn, except for already working cascade of Hydroelectric Power Station, from five hydroelectric power stations the total established capacity 2870 Mwt, on circuit studies of in-stitute of Open Society " hydro project " is possible to construct seven more cascades from 33 HYDROELECTRIC POWER STATIONS the total established capacity 6450 Mwt with mid-annual devel-opment of more than 22 bill.kWt./h. electric power.

The feature of Kyrgyz electro power system is that more than 90 % of annual development of the electric power and are concentrated capacity on hydroelectric power stations, and fuel consumed by thermal power stations is delivered almost completely from the neighbor countries, including coal, natural gas and oil.

The Limited currency-financial opportunities of republic on purchase of fuel and energy re-sources under the high prices have sped up introduction of electric energy for the purposes of heating, hot water supply that has essentially weakened dependence of the country on import of expensive fuel.

Therefore in the program of economic reforms in the country increase of a level of electrification of an economic complex is provided on the basis of development of new power resources.

In a river basin Syr-Darya liquidation of power damages can be achieved only by construction of additional HYDROELECTRIC POWER STATIONS and the water basins playing a role of seasonal power equalisers of electric power system, filling in the winter period of year decrease of power feedback of the hydroelectric power STATIONS working in an irrigational mode. The optimum technical circuit of regulation of a drain the cascade of the interconnected water basins, finally should provide:

Full satisfaction of requirements of water supply of irrigated agriculture and ecology in basin;

Mode of development of the electric power, meeting the requirements of Common electric power system integrating interests included in it national electric power system.

In this plan prime objects are Kambaratin Hydroelectric Power Station which are settling down on an average site of the river Naryn, in a higher zones of dying shift of Toktogul water basin.

On this site three hydroelectric power stations by total capacity of 2430 Mwt can be erected.

One of them - HYDROELECTRIC POWER STATION - 2 capacity - 360 Mwt, directly adjoin-ing to Toktogul water basin in a stage of construction where it is executed about 25 % of a complex of civil work and a part of the put equi pment - is prime for Commissioning.

But the most important hydropower object in Kambaratin complex, is HYDROELECTRIC POWER STATION - 1 with capacity of 1900 Mwt, settl ing down above HYDROELECTRIC POWER STATION - 2 and having 4.2 bill.m^3 and capable essentially to change a water basin of seasonal regula-tion in useful capacity to 15 kms both summer and winter water-power modes downplaced cascade of Hydroelectric Power Station.

Kambartin Hydroelectric Power Station - 1,2 are capable to work in a mode of the seasonal power equal izer electric power system and to fill reduction of development of electric energy and capac-ity of cascade Toktogul'skih of Hydroelectric Power Station in the winter period, and Toktogul water basin will carry out a role of anti-regulator of power charges of Kambaratin HYDROELECTRIC POWER STATION and completely can work in an irrigational mode.

Kambaratin HYDROELECTRIC POWER STATION - 1, certainly, the object of regional value also represents significant interest for power and water-economic branches of all countries in region.

With input of Kambartin HYDROELECTRIC POWER STATIONS, which are neutral izing in-fluence of irrigated agriculture on the big group of Hydroelectric Power Station of the cascade, is com-pletely excluded an opportunity of occurrence of any disagreements between the countries of region con-cerning a mode of use of water resources.

Construction of this object is, as a matter of fact, that price which should be paid for reduction of probabil ity of occurrence of confl icts.

Financing the construction of Kambartin HYDROELECTRIC POWER STATION - 1, taking into account a modern economic condition of the countries of the basin, the most real istic variant at the given stage would be reception of foreign credits for enough concessionary terms in a name of peace and consent in region.

The fact of joint actions of Kazakhstan, Kyrgyzstan, Uzbekistan, other interested countries and investors in this direction already will provide achievement of annual Agreements on modes of regulation of a drain, and at successful realization of the project power feedback of Hydroelectric Power Station can be allocated between all interested participants in view of supply of irrigational mode of Toktogul water basin.

Participation in this project of the International organizations would serve as a reliable guarantee of observance of the achieved arrangements.

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CREATION OF LEGAL BASE FOR INCREASE OF EFFICIENCY USES OF WATER RESOURCES IN TAJIKISTAN

Since September, 9, 1991 in a history of Tajikistan there has come qualitatively new period of sovereign independent development with transition inherent in it from a planned economy to market relations. It has demanded creation of new legislative base, the transition period appeared rather complex, there was no experience, but in process of promotion of economic and political reforms acts more and more adequate to a transition period began to be ac-cepted.

The water legislation is constructed according to the Constitution of Re-public Tajikistan and will consist of the Water Code (2000), normative-legal acts of Republic Tajikistan and the International legal acts, recognized by Tad-jikistan.

According to article 13 of Tajikistan Cinstitution " the Earth, its bowels, water, air space, animal both the flora and other natural resources are a sole property of the state and the state guarantees their effective use in interests of people ".

The list of the laws regulating various aspects of water relations:

The water Code
The law on wildlife management
The law on bowels
The law on power
The ground (land) code
The law on a payment for the ground(land)
The law on the state sanitary inspection
The wood (forest) Code
The law on veterinary supervision
The law on protection and use of fauna

The civil Code

The criminal code

Annually accepted laws on the state budget, regulating means republican and local budgets, the land taxes, directed on maintenance of a techno-logical level of irrigating systems, land reclamation, financing of regional bodies of the International Fund for Saving the Aral Sea (IFAS), the Organizations of the Central - Asian cooperation.

The main laws,are regulating water relations of Tajikistan, the Water code And the law on wildlife management .

Acceptance in November, 2000 of the New Water code has fixed the new potential which has been saved up during 8-10 years of reforms, have been legalized by Water code : a payment for services on water delivery to consumers, is established the full economic mechanism of water use which includes :

- payment for special water use;
- free of charge common water use;
- A payment for using water resources in repartitions of the established limits (except for an agricultural irrigation and a forestry);
- A payment for the services connected to accumulation, transportation border of consumers, distribution and clearing of waters;
- A payment for the license on special water use for the purposes of an irrigation.

The establishment of tariffs for water delivery the Government has as-signed to Committee on an antimonopoly policy. The tariff policy is adjusted by decisions of the Government in such a manner that transition to full payment will occupy years. While tariffs for an irrigation are established in size no more than 30 % of normative expenses and achievement of 100 % of payment un-der these tariffs is distributed for the period till 2006. From the beginning of introduction of these tariffs in 1996 and till 1999 made no more than 15-17 %, in process of growth of economy in 2000 it has made 40 % and in 2002 has reached the authorized tariffs.

Separate decisions of the Government and Parliament carried out the state support of a water management as deductions from the Republican budget, local budgets, a part of the tax to the ground. In 2000 the general ac-tual budget of a water management has made 50

% from the authorized sizes and in 13,5 times less, than in 1990.

The payment for use of water resources (for a natural resource) is not entered yet on economic reasons, but preparation of normative documents is conducted. The payment for water in a municipal services was always, into the industries is entered, in 1982, tariffs are at a level of normative expenses in view of taxes and tax collections.

Introduction of a payment for water is the business of the concrete sov-ereign state, but without provision of economic incentives of the water-savings to reach concrete results is difficultly. In particular in Tajikistan for an above permitted standard water-fence is established the raising factor 1.2, and for an autocratic water-fence - 3 to the standard rate .

In Tajikistan it is put the task that, a payment for water together with the state support would provide normative financing an irrigational complex , differently to avoid its degradations is impossible. In this connection there is a necessity of development of the law of direct action, or entering of additions of direct action into the Water code about obligatory state support of a water management, and in particular with specification of principles of budgetary financing, tariff, customs and a tax policy, with change of corresponding articles of Ground and Tax codes so that the certain share of the nation-wide tax to the ground indoubtedly went on land reclamation, maintenance of irrigational systems, a capital lay-out of the grounds, actions which give real economy of water, do not suppose deterioration the legislation of indirect action does not allow to do it to the full. The law of direct action on a payment for water re-sources is necessary also, it will allow to solve effectively and the economic problems connected to water resources.

Tajikistan the positive experience connected to a payment for the ground when with acceptance of the law of direct action since 1997 has sharply improved gathering a payment for the ground.

The developed bill about the uniform tax to the ground is called to unit all existing taxes in an agriculture and to stimulate productive work for this purpose now there are carried out experiment in several pilot areas.

With acceptance of the new Water code there is developed the

package from 25 acts of the Government on the basis of which then departmental po-sitions, charters specifications, techniques will be harmonized.

Most important of them.

- The order of entering of a payment for water use and an establishment of tariffs and privileges;
- The order of encouragement of water-users;
- The order of the indemnification;
- The order of the organization and coordination of the actions providing an appropriate technical condition and an accomplishment of water basins;
- The order and tariffs of entering of a payment for registration in the State register of water-economic constructions;
- The order of the state control and the account of waters, their use, monitoring of waters, development and the state-ment of circuits of complex use and protection of waters;
- The order of using water objects for various needs (water-power engineering, waste waters, transport, etc.)

Except for it there are developed projects laws :

- About monitoring water resources;
- About drinking water supply;
- About potable water;

In December, 2001 the Government of Tajikistan has ratified the concept on rational use and protection of water resources in which the main directions of development of a water-economic complex and in particular it institutional and legal aspects are determined.

All water-economic complex substantially depends on institutes which in-fluence on water resources management, and also execution by these institutes of existing acts, for this purpose in Tajikistan are undertaken institutional esti-mations in each organization, come to light theconnections between them with use of criterion of an overall performance and efficiency of given services . And the main parameter of this efficiency is the size of the contribution of resources and investments into the annual budget of a water-economic complex.

At a level of the corresponding ministries, the sheet still is necessary to develop the institutional structures on management in a water

management. Proceeding from conditions of the market and to make necessary changes to their positions and charters. Partly this work already began since 2000-2001 in connection with requirements of the new Civil code. The main question is a question of the property be relative which is built all other design of manage-ment and use of water resources. Earlier privatization in a water management has been forbidden, now by the Water code is determined, that the Government carries out management of re-structuring of the property, an establishment about change of patterns of ownership on water-economic objects. But the cen-tralized systems of water supply cannot be privatized by potable water. The le-gal persons who have independently constructed and maintaining such systems are their proprietors.

Sources of financing of systems of drinking water supply are means of republican and local budgets, means of consumers of water, means of physical and legal persons. Other sources not forbidden by the legislation. There was a reality, a transfer of the right of management by water-economic objects state to the specialized local and foreign legal persons under the tender contract to a basis with a condition of preservation of their criterion function the sanction of the Government of Tajikistan. In revenge with this Government, it is established, that the major and unique constructions have remained in the property of the state.

At a national level gradual transition to a system method of management in repartitions hydrographic, instead of administrative units, creation of associa-tions of water-users, introduction of demand management of water, differentia-tion of payments for delivery of water was carried out depending on concrete conditions and an economic situation of water-users.

The decision of many problems of a water-economic complex depends on a financial condition of water-users served by it, therefore in questions of in-crease level of profitableness of managing of water-users the big role belongs to stimulating legal regulation of their activity, protection of their legitimate inter-ests. Precise legislative base, flexible to various non-standard situations, it is especial in sphere of tariff, customs, tax regulation and credit support will allow to solve

many questions.

In these purposes in the current year inventory of irrigating systems is carried out, but for benefit of an affair it is necessary census of agriculture.

At an Interstate level it is necessary to lead the following actions:

- To find an opportunity of financial support on the part of the interna-tional organizations on development of offers connected with adap-tation of the national water legislation to various International con-ventions in the field of rational use and protection of waters;
- To arrange, that the Organization of the Central - Asian cooperation became really coordinating center on development and acceptance of necessary Interstate documents;
- To develop new strategy of water-division, economic mechanism of water use what allows to reduce losses of resources of water, the electric power. To achievement of progress in an operating time of existing Interstate documents to the full there corresponds the new initiative of Heads of the States of the Central Asia on development of the concrete actions program on improvement of ecological and social-economic conditions in Aral Sea basin for 2003-2010.
- it is necessary for executive Committee of the International Fund for Saving the Aral Sea of the Central - Asian states, the International organiza-tions and donors involved in drawing up of this program, to use the best efforts to make possible its statement at anniversary session of the IFAS in Dushanbe Interstate Forum at stale water which will take place on 30,31 August-1 September, 2003.

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ROLE OF BWO "AMU DARYA" IN QUESTIONS OF INTERSTATE WATER RESOURCES MANAGEMENT IN A RIVER BASIN OF AMU DARYA

Now the structure of Interstate cooperation on water resources management in a river basin Amu Darya includes the following states of the Central Asia: Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. In connection with small volume of water consumption 400 million m3 of Kyrgyzstan, the main water-consumers in a river basin Amu Darya are Tajikistan (9,5 cube km.), Turkmenistan (22,0 cube km.), Uzbekistan (23,2 cube km.).

The organizational structure and interaction of Interstate controls by water resources of Aral Sea basin and river basins among themselves and the state bodies coordinates with working structure of IFAS directly through ICWC with its agencies (BWO, SIC) which are the main parts in questions of Interstate cooperation.

Existing water-economic complex of Amudarya basin is submitted by a complex of the constructions providing transportation of water resources, transformation of a drain, a water-fence and water delivery to water-consumers, development of the electric power, the control and the account of water resources and their quality.

First of all, there are included all Interstate (transboundaryed) water resources of basin, in sphere of management , including superficial and returnable waters.

The property right and managements of an infrastructure of Aral Sea basin is divided between the national governments and BWO. In this case mean only BWO "Amu Darya", that taking place in conducting of the ICWC. It is supposed, that a regional infrastructure should be basin infrastructure, which is taking place in conducting BWO. The national infrastructure should include all other, going a rank is lower an infrastructure, down to an infrastructure of an economic level.

On balance of basin water-economic association "Amu Darya" by

January, 1, 2003 there are 90 units of hydraulic engineering constructions handed to time operation, from them 35 units of head water-fences, 337 kms. of Interstate channels, 169 hydroposts, more than 330 kms. of communication lines, 361 kms. of inspection roads, 115 kms. of electric mains, 120 units of radio stations, 15 units of radiorelay stations are a main part of a fixed capital by means of which regulation and distribution of water resources between the states water-consumers is carried out. It is necessary to note, that the most part of expenses on maintenance of all water-economic complex in a technical serviceable condition falls at hydraulic engineering constructions and large main channels.

For the basin water-economic association "Amu Darya", created in 1987, under the general arrangement with the states of basin is assigned service and management not all river basin Amu Darya, and management only by trunks of the following rivers:

1. Trunk of the river Pyandj.
2. Trunk of the river Vakhsh.
3. Trunk of the river Kafirnigan.
4. Trunk of the river of Amu Darya from the beginning up to Aral Sea.

Management and operation of Interstate main channels also have been assigned to association with constructions located in a lower reaches of the river Amu Darya which is lower Tyuyamuyun hydrounit.

The BWO tasks in optimum Interstate and interbranch distribution of water resources are put with the purpose of satisfaction of need for water of the population and branches of a national economy in conformity by the authorized limits members of ICWC, with the account of hydraulicity and ecological conditions, and also the operative control over observance of limits of water-submission and all complex of the organizational - technical measures connected to these tasks, and also maintenance of submission sanitary - ecological flow augmentations in zone of Priaralye and Aral Sea is kept.

For realization assigned BWO tasks in management of transboundaryed water resources at BWO "Amu Darya" create four managements on operation of water-intaking constructions,

hydrounits, Interstate channels with the centers in cities Kurgan Tyubes (Tajikistan), Turkmenabat (Turkmenistan), Urgench (Uzbekistan), Takhiatashe (Karakalpakstan).

Territorial operative ranges of managements are divided as follows:

- Verkhnedaryinsk Management maintains water-intaking constructions and supervises water-fences from the rivers Vakhshs, Pyanj, Kafirnigan and on a site of the river Amu Darya in length of 246 kms. up to hydropost Kelif.
- Srednedaryinsk Management supervises water-fences on a site of the river Amu Darya in length of 552 kms. located between hydroposts Kelif and Darganata.
- Management of Amudarya interrepublican channels (Upradik) carries out operation of 11 river water-fences, 52 hydraulic engineering constructions on the main channels, contains and maintains 337 kms. of the main channels, supervises water-fences on a site of the river from Tyuyamuyunsk hydrounit up to hydropost Kipchak (extent of a site of the river - 167 kms.). In submission to Upradik there are three large irrigating systems:
  1. Tashsakin
  2. Klichniyazbay
  3. Kipchak-Bozsuy
- Niznedaryinsk Management carries out operation of Takhiatash hydrounit, head river water-fences channels Khan - yab and Jumabay, supervises all water-fences from the river on a site from hydropost Kipchak up to Aral Sea (extent of a site - 283 kms.).

In its operational, economic activities,the BWO "Amu Darya" has achieved the following positive results:

- It was possible to create working organizational structure of association, capable to solve the primary goals on in modern way, operative water resources management and their account;
- To keep material base of association;
- To create necessary conditions for normal functioning of the divisions.

Despite of the achieved positive results in work of association for last years it is necessary to pay attention to some questions, demanding the decision:

1. Updating material and means (digging technical equipment, transport of a various kind, crans' facilities, a communication facility and the water-account, boats, etc.)

2. To solve a problem of reserve power supply on head river water-fences and large constructions on Interstate channels.

3. To solve the problem of training and retrainings of personnel in view of modern requirements.

4. To solve the questions connected to strengthening of the status and expansion of opportunities of the BWO.

For achievement of the specified purposes and tasks of the BWO, according to the Charter, should carry out the following functions:

- Development of plans of water-fences, operating mode of the cascade of water basins, updating and coordination of ICWC of seasonal limits of water consumption for the states of basin;
- Realization of intermediate term planning, joint development and protection of the water resources, coordinated with water-economic and power departments of the states of basin, participation in forward planning;
- Water delivery to the states - to water-consumers, to Aral Sea with Priaralye according to decisions of the ICWC. Realization of operative - dispatching management with water-power resources of Amu Darya river basin and the operative control over observance of limits of water-fences and, together with ODC "Energy", overflows of the electric power;
- Representation of the monthly information on use of water resources to members ICWC.
- Creation and realization of the Automated control system by water resources of river basin Amu Darya, performance of works on the organization of the water-account and water-measurement on head water-fences, and equipment their means of automation and telemechanics;
- Performance together with bodies of a hydrometeorological service of the states of control gaugings of water on frontier transit of territorial managements for carrying out of the balance account of a river drain;
- Monitoring of an ecological condition of water systems of Amu

Darya basin and quality transboundary water resources;

- The control over observance, authorized by ICWC, an operating mode of the cascade of water basins;
- Realization of nature protection actions in limits of water defence zones of transboundary rivers according to the legislation of the countries, and as agreed with local administration on which territory to be management of them;
- Realization of operating repairs, reconstruction and technical operation of hydrounits, head water-intaking constructions, Interstate channels and collectors, objects of the automated control system of water resources of a river basin Amu Darya and other objects which are taking place on its balance, for their maintenance in a normal technical condition;
- Performance of functions of the customer on research works, designing, construction new and reconstruction of, taking place on balance of association, water-economic objects;
- Development and realization together with water-economic bodies of the states both other interested enterprises and the organizations of actions under the accident-free passing of high waters and protection of settlements and agricultural lands from flooding, deluging and other catastrophic situations connected to water;
- Maintenance of observance of labour safety requirement and the safety precautions;

Existing normative-legal maintenance allows BWO "Amu Darya" in this or that degree to solve the questions of operational activity. However with change last years situations in the states of basin (introduction of visas, creation of borders, strengthening of requirements of customs services, introduction of duties, rigid shallowing of 2000-2001 and other every possible reasons), began to be felt sharply necessity of strengthening of legal base of BWO and rendering of support to association in this question on the part of the states of region.

It is necessary to note, that within the framework of regional interaction on Interstate and interbranch use of water resources of transboundary rivers of Aral Sea basin now there is complex enough

situation which urgently demands acceptance of the certain decisions on strengthening of joint cooperation, first of all additional organizational and legal measures.

And the question of strengthening of a role and value of the BWO in Amudarya basin, is one of the most important tasks, demanding the joint and coordinated actions from all participants of WEC.

Powers and functional duties of the BWO should be expanded within the limits of all basin of the rivers subordinated to them, including questions of quality of water. For what it is necessary to take the following measures on strengthening of the BWO:

- To consider the transfer of not transfered head water-fences of the BWO and the transfer on BWO balance of bed trunks of transboundary rivers, that will allow to solve the problem the status of the rivers.
- To organize own hydroposts of the BWO on all dumps of CDW in trunks of the rivers and to organize the account of quality of returnable waters in BWO.
- To find means on creation of the Automated Control system by water resources of a river basin Amu Darya (ACSB) "Amu Darya".
- To finish the BWO rules of work in conditions of, both normal hydraulicity, and extreme hydraulicity (high waters and low waters). This document in the form of a management should define precisely the order of interaction between the BWO and the ministries of water (or water and rural) economy, water-power engineers, hydrometeorologists, etc. the order of finishing up to water outlet in systems of the countries of the allocated limits, the order of updating flow augmentations from water basins as their owners, and from the BWO; the procedure of updating of limits, the order of the account of losses, the order of indemnification having overcome or shortages for the previous period.
- To develop regional and national information systems, their interaction and the order of mutual knowledge and an exchange of the operative and analytical information, especially in conditions low waters and high waters, coordination of the BWO hydrometeorologists data and the Ministries, especially regarding immediate information on change of charges and a water level in

the rivers.

- Achievement of a transparency, equality and trust in work of regional bodies by giving of independence by it from a host country and simultaneously equal representation of all countries.
- Reconstruction, modernization and major overhaul of head water-intaking constructions, reconstruction of Interstate channels with constructions. Improvement of means of the water-account and connection, introduction of telemechanization and automatics.
- It is necessary to develop uniform for the states of the Central Asia specifications by definition of expenses on current and major overhauls of objects of Interstate value.
- To accept the uniform concept about metrological maintenance for Aral Sea basin.
- To develop uniform Rules for region of technical operation of irrigating systems.
- To accept separate Agreements on basins about main principles of sharing of transboundary waters of basins of Amu Darya and Syr-Darya rivers.

Urgency of a question, maintenance of the rational mechanism of a joint management with water resources of Aral Sea basin, it is specially reflected in priorities of the Decision of Heads of the CA States " the Main directions of the Program of concrete actions on improvement of ecological and social and economic conditions in Aral Sea basin for the period of 2003-2010 " in this program are taken into account, also interests of the BWO in questions of strengthening of a material resources and rights of the BWO.

In modern political and social and economic conditions - one of the most reasonable ways of creation of well-being in region is a realization of principles of the integrated (complex) water resources management of the Central Asia directed on effective use to water resources and liquidation of unproductive losses of water through all-round partnership. For the organization of such regional partnership it is necessary to carry out integration of efforts on the following directions:

- Integration of efforts of the countries on the integrated management of water and the water-savings - through partnership

at an Interstate level.

- Integration of interests of sectors of economy and the nature - through interbranch partnership in each state in which the account of requirements of the nature will take a leading place.
- Integration of knowledge and practice - through partnership of a science and manufacture with water-users and the water-economic organizations (with use of such tools as base of knowledge, system of training, consulting services).
- Integration of the International donors and region - through coordination and partnership of the International financial organizations.

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ABOUT SOCIALLY ACCESSIBLE AND ECOLOGICALLY SAFE WATER SUPPLY OF THE POPULATION IN THE COUNTRIES OF THE CENTRAL ASIA

Comprehension special roles of water and its exclusive social importance in aspect of human rights on safe and sufficient water, demands new approaches to regional cooperation in the field of sharing transboundarys water-currents as from character of its consumption, including pollution of a river drain by the countries located above on current, depends on the stability of water use of the countries which are taking place in a lower reaches of river basin . It is understood, first of all, as optimum satisfaction of requirements of branches of economy and the population in water safe on quality and socially accessible. It is enough complicated problem as, on the one hand, it is necessary to consider the natural factors causing character and scales of use of water resources, on the other hand - influence of anthropogenous factors on a condition of an environment and, first of all, river basin. Non-uniformity of territorial distribution of the water resources, natural fluctuations of a drain concern to such factors in time, continuous growth of consumption of water and pollution of water sources. Cumulative influence of these factors, due to absence of effective regional and national mechanisms of management of them, causes deterioration of sanitary and ecological conditions of residing of the population, reducing, first of all, its availability to safe potable water. As it is known, in drinking water supply the underground waters distinguished by higher quality, than superficial have special value. However, it is necessary to note, all growing use for the household-drinking purposes of the cleared superficial waters that shows rigid requirements to quality of waters of the transboundaryed rivers. Protection of quality of water now is considered as the most actual problem in water resources management. In its decision the major place is allocated to legal, economic and administrative

measures. In all countries of region laws on the water, water resources managements providing a uniform legal basis on national basin and administrative-territorial levels operate. It is remarkable, that the modern water legislation is very closely connected to legal statuses of preservation of the environment that testifies to the tendency of consecutive transition to the integrated water resources management. Thus its basis considers a river basin - uniform geographical area within the framework of which it is possible to provide complex use of water resources in view of social, economic and ecological factors. The principle of basin managements receives the increasing distribution and becomes the main thing in the International cooperation on transboundaryed rivers. Among the national measures directed on reduction of an expenditure of water and protection of water resources, it is necessary to note measures of the economic contents. Effective price regulation of water use and protection of waters is considered by one of priorities of a national water policy. At this level each country should provide with economic and administrative - legal measures such water use which would not worsen the condition of water delivery of the adjacent country located in a lower reaches of a river basin. Effective realization of such national water policy should be considered the main contribution of the country to strengthening regional cooperation in the field of sharing transboundarys waters. At the same time the condition of drinking water supply in the countries of the Central Asia as a whole is estimated by the extremely unsatisfactory, in ecologically crisis areas the population has no access to safe potable water in the sanitary attitude. Identical to the countries of region of a problem of drinking water supply in general and on an example of one country, in particular Kazakhstan, it is possible to estimate tendencies in this sector of a water management and to define priority approaches to Interstate cooperation for the decision of questions of water supply and sanitary in region.

In Kazakhstan from 85 cities and 223 settlements of city type plumbing-sewer systems have 82 cities and 186 settlements. With the centralized water supply it is covered 92.8 % of the regional and economic centres. In total in a countryside from 6812 settlements the

centralized water supply is present in 3911, from them 1328 were connected to group waterpipes, in the others local waterpipes are constructed. Service life of the equipment, water carrier and planting nets practically on all systems of water supply exceeds normative and their deterioration continuously grows, causing often failures, deterioration of potable water. Alongside with it also it is necessary to specify a low level of the organization of operation of waterpipes, including its legal, economic, institutional financial and economic aspects. Because of a high degree of a deterioration of main water carrier and planting water supply systems, various outflow from an available housing it is lost more than 20-30 % of the water prepared at water cleaning stations. For these reasons, and also out-of-date technology of water purification of system of water supply do not provide uninterrupted submission of potable water and its required quality.

The majority of the regional centres of the country has no complex of the sewer cleaning constructions, the crude drains are dumped on fields of the filtration, existing cleaning constructions test overloads in 1,5-2 times. In many cities there is no storm water drain and from their territory in water objects the big volume of the drains polluted with fulfilled mineral oil of motor transport acts. The significant share in volume of city sewage is made with drains of the industrial enterprises, up to 24 % in the separate cities acting on cleaning constructions which are not designed for cleaning of such waters.. Recently in household sewage drains of washing-up liquids of the foreign manufacture, difficultly giving in to cleaning and with the long period of harmful influence on water sources began to prevail. Stores of sewage in a number of cities are filled up to limiting marks, creating constant threat of emergency break. Construction of many nature protection water objects is suspended or not conducted at all. The sanitary-and-epidemiologic service of the country ascertains high densities of tests of water of reservoirs inappropriate to norm on bacterial pollution. Position is aggravated with that more than 40 % of waterpipes with a fence of water from superficial water sources without modern equipment for disinfecting and water treating. On many water-fences the mode of sanitary protection of water objects

pollution of sources of drinking water supply is not observed at an insufficient overall performance of water-purifying constructions entails deterioration of water submitted to consumers. The adverse ecological conditions, insufficient security of system of household-drinking water supply from influence of toxic industrial and other waste products create now real threat of reduction or even a full stopping delivery of water in a number of cities and other settlements. Actually there are no reservoirs or sources, suitable waters for direct use without preliminary clearing. The largest transboundaryed rivers Irtysh, Ili, Syr-Darya, Ural are the main sources of drinking water supply for many areas of the country. The drain of these rivers is exposed to pollution in territory of the adjacent states and practically is not protected from chemical and bacteriological pollution. In this connection especially it is necessary to note, that Kazakhstan is one of the least water-provided countries at the rate of on unit of territory with a high degree of pollution of superficial sources of drinking water supply. Quality of superficial waters practically on all large water-currents does not correspond to standards on potable water and they can be used for household-drinking water supply only after the appropriate cleaning. Each second inhabitant now is compelled to use the water which is not appropriate on a number of parameters to hygienic requirements for the drinking purposes, almost third of population uses decentralized sources of water supply without the appropriate water purification, the population lacks some potable water a countryside and absence of appropriate sanitary - conditions of life connected to it. Deterioration of a state of health of the population of the country in the certain measure is connected to consumption of substandard water. For finding way out from this situation the state program the "potable water" directed on urgent realization of a complex of actions for restoration and development of potential of water and clearing constructions, to expansion of scales of use of underground waters, protection of water sources against pollution is accepted. Safety of drinking water supply is the main problem of the given program and an ecological policy of the country as a whole. The normative maintenance of the centralized water supply directed on performance of high requirements to quality of water

and full satisfaction of requirement for it, should cover not only technical, economic, but also ecological factors. Restoration of optimum sanitary-and-hygienic parameters of sources of water supply which first of all are understood as maintenance safe for health of quality of water, essentially facilitates the decision of a problem of reliability of drinking water supply. Within the framework of the given program a priority direction in activity of the water enterprises and the water-economic organizations is amplification of measures behind observance of quality of potable water and protection of water resources against pollution. In a combination to technological perfection of clearing systems of water supply and increase of their barrier role effective protection of natural waters - sources of drinking water supply represents one of prominent aspects of the integrated water resources management. The problem of perfection of quality surveillance of potable water in the centralized systems of household-drinking water supply is extremely actual. It is caused, first of all, by constantly fixed facts of intensive pollution of sources of water supply by anthropogenous products with high toxicity and the numerous data on damage, inflicted to health of the population as a result of consumption of the substandard water containing chemical and biological pollution. The estimation of sources of water supply by criteria of safety demands perfection of quality surveillance of water that assumes necessity of development of uniform state system of ecological monitoring. The existing multidepartmental monitoring system does not provide the decision of such problem and does not prevent heavy consequences even in rather simple emergencies. It should be radically reconstructed and be carried out on a basis ecosystem approach to improvement of quality of water in sources, reduction of damage from emergency and other dumps etc. It is necessary to note, that many chemical substances in water are not defined by supervising services. Monitoring of quality of water spent by them is not indicative from the point of view of suitability of water for drinking water supply. Used for comparison of quality of water the index of pollution of water by virtue of limitation of the information on the main polluting components can not serve as effective criterion of such estimation. Therefore the available

information reflects only general picture of quality of water in superficial water-currents.

Base foundation of development of monitoring systems of quality of potable water should be formed on recommendations the WHO (Wirld Health Organization) which actively will carry out the work on perfection " Managements on quality surveillance of potable water ", switching in the broad audience of specifications on maximum permissible concentration of pollution of potable water anthropogenous toxic products, including the organic connections having cancerogenic and mutagen actions, and also heavy metals, products of disinfection etc. It is necessary that, in turn, the International organization on standardization (IOS) by forces of technical Committee " Quality of water " carries out development of a complex of the International standards regulating a quality monitoring of quality of water with scope of the main nomenclature of normalized kinds of pollution. Modern researches in the field of influence of various kinds of anthropogenous pollution of water on an environment reveal cancerogenic and mutagen influence on health of the people, the various diseases connected to substandard water and continuous expansion of number of toxic substances found out in water that make especially actual a problem of quality surveillance of potable water with use of effective tools of standardization. Along with standards of IOS in many industrially advanced countries national documents on a quality monitoring of quality of the potable water, focused on use more the newest means of the control are developed and take root. Undoubtedly, that all this information should be enough accessible and be used in system engineering national standards and managing documents on quality of potable water and its certification. It is possible to assert, that potable water as a version of the commodity output made by the specialized enterprises according to requirements of state standard, establishing obligatory requirements, is subject to obligatory certification as non-observance of requirements of the standard can damage health of consumers.

Therefore drinking waters should be subject to the obligatory certification confirming its conformity to requirements of standards

on safety and harmlessness. Objects of obligatory certification should be waters of the centralized systems of water supply, the potable water delivered to the population in a packaged form, household water-purifying devices etc. For all specified kinds of production the general attribute of an estimation of safety of water is conformity to the requirements established in sanitary rules and norms. Certainly, the greatest complexities certification of water in the centralized systems of water supply, as represents its quality appreciably to envy not only from technological process of water-preparation on a waterworks, but also from stability of quality of water in a source of water supply, a condition of water supply systems. In this respect practical interest represents use of the International experience of declarative certification in systems of drinking water supply.

On the majority of municipal waterpipes less attention is given to measures on reduction of an expenditure and economy of water, the electric power. The main responsibility for the decision of this problem should lie down on institutions of local government. The economy of water and the electric power is not only reduction of the operational expenditure (including from the budget on the grant to the population), but also the opportunity to defer construction of new buildings for waterpipe and the water drain to provide uninterrupted operation of water supply at deficiency of capacity of system, to achieve deeper clearing, both drinking, and sewage according the reduction of loading on working cleaning constructions and to improve an ecological condition in basins of the rivers. Studying of actual water consumption shows significant reserves of economy of water and the electric power. It is established, that only in residential buildings as outflow through faulty water-folding armature about 20-30 % of water is lost. Due to the elementary reconstruction of a main network, modernization of a part of the pump equipment and change of a mode of its work usually it is possible to reduce the charge of the electric power on 15-20 %. Realization even the cheapest and accessible measures can be only at the objective control of water consumption with the help of counters. And accordingly, reduction of its selection from a water source it is necessary to consider economy of water the major aspect of preservation and restoration of ecological safety of

the rivers. Due to it the huge multiplicate effect in all spheres of the economy connected to use of water is achieved. The smaller volume of a fence conducts to minimization of expenses for construction and operation of water-economic objects, reduction of dump of sewage and reduction of loading on environmental natural environment. It is important, that the water source in these conditions completely keeps the functional purpose, as the main component of the natural environment. Irrespective of a level of a water-economic policy, it should result in economical use of water and prevention of negative influences on environmental natural environment. Therefore rather important participation of the population is represented during preparation of decision making on water-economic actions, connection of water-users with administration, creation and strengthening of a role of associations of water-users, as tool of realization of a water-economic policy at public and private levels of water resources management. The population, as a rule, has no access to the information on prospective projects on water supply and accordingly can not estimate a consequence of realization of the project or make any changes with the purpose of its improvement. A reserve unused to the full in improvement of water supply there is an ecological formation and educational work on an economical expenditure of potable water. Progress in this direction as practice shows, is reached, when the payment for potable water becomes socially accessible. pricing on water and the real account of its expenditure, a low level of work with the consumers, insufficient precise differentiation of rights and the responsibility between maintaining organization and water-consumers, it is necessary to count the overestimated norms of water consumption focused on extensive development of capacities, absence of elastic system one of the reasons of a financial inconsistency of the water enterprises. Lack or absence of financial assets at all stages of economic activities finally is negatively reflected in water delivery of the population. The extremely difficult situation with water supply is observed in a countryside. In a number of rural areas high cost of potable water does not allow to use the water enterprises and the population passes to local sources superficial or the subsoil waters which are not adequate to sanitary requirements

of quality of potable water. Among prime measures on restoration of system of drinking water supply in a countryside it is necessary to allocate the following. With the big extent (group watersupplies), having a unsatisfactory technical condition and high operational expenses, stage by stage it is necessary to segment waterpipes and water supply of separate settlements should be located on the basis of local (underground) water sources. At the same time group waterpipes in a countryside should have the special order of financing, the maintenance and repair. In areas in which sources of potable water are subject to strong pollution, it is expedient to organize manufacture bottled waters with the cost accessible to the population. In a countryside should receive a wide circulation small frame-and-panel-container installations on clearing potable water with creation for their service of the specialized service and an opportunity of reception for this purpose easy loans and credits.

Strengthening of a role of societies of water-users within the framework of institutions of local government is a way of increase of economic efficiency and the greater responsibility for operation and the maintenance of water and sewer systems. Such public organizations can not participate in management of water supply at deficiency of powers, therefore for them legislatively it is necessary to provide access to the control of performance of decisions, the responsibility for operation of system of water supply.

The modern concept of water use assumes not only regulation of requirements for water and its qualities, but also preservation natural ecosystem within the limits of all river basin that has the important value in a safety of drinking water supply. The key role in it is played by ecological normalization of quality of waters, achievement of which high parameters should be the purpose of the water policy fixed in the national legislation and agreements, concerning transboundaryed rivers. Demand management on water and its quality with the account of ecosystem criteria should make base positions of a national water policy. It is necessary to understand as regional cooperation, first of all, readiness of each country to carry out national plans of action on the basis of the unified ecological criteria and standards of water use. The main and without alternative source of fresh water there are rivers,

unfortunately, they continue to remain means for removal and transportation of waste products, exhausting water resource potential of river systems and being one of primary factors of deficiency of safe water. In this connection national strategy of water use should be directed, first of all, on protection of waters and development highly effective water defending technologies in all spheres of water use that will allow to reduce volumes of consumption of water and dump of sewage. Water-security plans of national actions should have the system approach to all aspects of water use, creating thus a basis for transition to the integrated water resources management. The priority purpose of regional water strategy and a policy should be realization of the coordinated national actions for preservation natural resources potential of river system and its ecological safety.

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Dr. E. S., the professor

MODERN CONDITION OF DRINKING WATER SUPPLY RURAL OCCUPIED POINTS OF KAZAKHSTAN: PROBLEMS AND PROSPECTS OF PERFECTION

Water - one of the most widespread on the Earth and unusual on the properties chemical connection. Without water existence of the life is impossible. Water - the carrier mechanical and thermal energy plays the major role in an exchange of substance and energy between geospheres and geographical areas of the Earth. To this in many respects promote both its abnormal physical and chemical properties. One of founders of geochemistry, V.I.Vernadsky, wrote: " Water stands independently in a history of our planet. There is no natural body which could be compared to it on influence on a course of the main, most grandiose geological processes. There is no terrestrial substance - a mineral, rock, an alive body which would not conclude it. All terrestrial substance - under influence of individual forces peculiar to water, its vaporous condition, it availability in the top part of a planet - it is also covered by water ".

More than 60 % of territory of Kazakhstan it is located in arids zone, has low moistening and the extremely limited water resources. Aridity of a climate and flawless character is a significant part of territory define value of water resources as the factor providing stability of natural basis and stability of social and economic development of republic.

Dryness of a climate of the country have caused weak development of a river network, high intensity of evaporation results in sharp pauperization of the rivers by water, and many of them in general dry up in summertime. Only the biggest rivers reach reservoirs open. In territory of republic it is totaled more than 85 thousand rivers and time water-currents, from them six - by length more than 1000 kms, 228 - more than 100 and 11,5 thousand more than 10 kms. The mid-annual volume of a river drain makes 125 km3. The transit drain of the rivers acting from Chinese People's Republic, Uzbekistan, Kyrgyzstan, and Russia, constantly decreases, reducing total water resources of Kazakhstan.

For maintenance of water balance protection of the small rivers has the important value. Usually on coast of them rural settlements, cattle-breeding farms settle down. To this category of the rivers concerns water-currents in the extent from 51 up to 200 kms, on their share to have from above 60 km3 water resources of the country. The greatest waterflow (70-100 %) they have during a spring high water. The small rivers are rather sensitive to anthropogenous influence, and consequently their protection from pollution has especially important value for Kazakhstan.

Water resources of all river basins, except for Irtysh, are completely involved in economic use. Within average waterflow it is lower than average, water does not suffice, and, if to take into account, that water resources are placed not according to requirement, and flow modes and water consumption essentially do not coincide, deficiency in water in many regions is observed even in favorable years.

Adverse existential distribution of a river drain and its deficiency create crisis conditions in many regions of Kazakhstan, cause processes of desertification of territories and deterioration of ecosystem.

Annually water-updated water resources of Kazakhstan are defined by size of a local drain and inflow of river waters from the adjacent states. Resources of a river drain of republic are characterized significant variability in time. At the maximal annual volume of a drain 172 km3, the minimal value makes 64,4 km3 per one year, i.e. almost in 3 times less norm there is less than maximum and in 2 times. Alternation of shallow and abounding in water years is peculiar to a river drain also. In three areas of republic - Kzil-Orda, Atirausk and Aktausk - the local river drain practically is absent.

Adverse water-economic conditions develops in Aral Sea basin. Now this region receives water no more than 70 % from requirement.

Dificite water zone is the Central Kazakhstan, and also Caspian sea basin .

Water resources of all river basins, except for Irtysh , are completely involved in economic use. Within with water reserve lower than average, water does not suffice, and, if to take into account, that water resources are placed not according to need, and modes of water flow consumption essentially do not coincide, deficiency in water in many regions is observed even in favorable years. In the long term the situation can become

aggravated, since in process of development of economy water consumption will be increased. The anthropogenous changes of a climate connected to a hotbed effect can influence reduction of volume of water resources. At double excess of the contents of carbonic gas in a terrestrial atmosphere in comparison with modern, in steppe areas and basins of the mountain rivers which are not having glasier feed, reduction of water resources by 20-30 % is possible.

Adverse existential distribution of a river drain and its deficiency create crisis conditions in many regions of Kazakhstan, cause processes of desertification of territories and deterioration of ecosystem.

The largest wateruser branch in republic is the agriculture annually using on an irrigation, flied and agricultural water supply up to 19 billion m3 of water, water consumption by the industry makes 5,9 household facilities(economy) - 1,2 km3 in one year (table 1). The analysis of use of water resources in various branches of a national economy shows, that the general unproductive expenses of water in an agriculture makes more than 40 %.

Table 1. Averaged data of water resources use.

Regions	Fence of water from natural sources mill.м^3/year	Water use, mill.м^3/year				Losses of water at transportation, mill.m3/year	Dump of sewage, mill.m3/year
		For industrial needs	For household needs	On an irrigation, watering of agricultural water supplies	Total		
Akmolinskaya	307	39	40	220	298	8	40
Aktubinskaya	516	49	50	390	489	25	69
Almatinskaya	2496	83	295	1833	1960	538	294
Atirausskaya	706	90	25	419	534	156	47
Eastern-Kazakhstanskaya	2156	201	63	1428	1692	424	284
Djambilskaya	4011	116	67	2666	2849	1230	90
Karagandinskaya	1367	1065	102	236	1403	65	1026
Western-Kazakhstanskaya	1247	50	23	1041	1114	283	30
Kizilordinskaya	6367	257	28	4360	4645	784	526
Kostanayskaya	341	35	38	240	313	6	60
Mangistauskaya	1819	1762	28	19	1809	2	1703
Pavlodarskaya	3698	1886	93	1318	3287	110	1796
Nothern-Kazakhstanskaya	172	45	27	73	145	3	43
Southern-Kazakhstanskaya	5003	220	133	4815	5168	1048	812
Almaty	400	82	192	12	286	72	109
TOTAL:	29906	5980	1204	19070	25989	4754	6929

As a result of extensive operation of water resources in many areas of republic scales of use and pollution of natural waters have exceeded their potential of self-restoration. It concerns first of all territories without flow basins where it is formed the closed natural systems of full -and exchange of power . Thus prime real, or potential epicentres of zones of ecological destabilization without flow territories become trailer reservoirs (Aral, Balkhash, Caspian sea), perceiving integrated loading of climatic fluctuations and economic activities on a reservoir. So there was the Aral ecological crisis which has caused processes of desertification on hundreds thousand of hectares of the lands of former oasis of Priaralye .

The problem of provision of the population potable water mentions absolutely all areas and settlements. Significant negative changes in quality and availability of potable water conduct to large migratory processes and in a number of areas of steel the factor constraining economic development, the reason of deterioration of health of the population.

Prospects of sustainable water supply of the population and facilities of republic, and also prevention of processes of desertification and crisis situations are substantially defined by rational use of water resources, introduction to the resource saving and without waste technologies of water use in key economic branches of the industry, an industrial infrastructure and an agriculture.

During a transition period on market relations Kazakhstans has made progressive steps on a way of democratization, change of mentality of a society, change of patterns of ownership to agrarian branch of an agriculture. As a result of the reforms spent for an agriculture, instead of large commodity producers (collective farms and state farms) were formed fine agricultural formations, the new category of proprietors - peasants and the farmers terribly interested in rational use of the ground and water for reception of the maximal profit from manufacture planting and cattle-breeding production is created. On village new forms of managing take root, processes of becoming of the zealous proprietor develop.

In conditions of becoming of a market economy with the mixed patterns of ownership of water-economic objects new strategy of a water management and essential updatings of perfection of all mechanism of support of water-economic manufacture on water basins, the rivers and

meliorative objects are necessary. For this purpose it is necessary to develop legal base on use of water resources and operation of large water-economic objects, the state support on inventory of the constructed water basins, dams on the rivers, water regulation constructions is necessary for studying of their technical condition of the control quality of water.

A. ERMOLOV,
The Glaciologist

AFTER A DROP OF WATER

The unique action within the framework of the present year declared by the United Nations on the International year of fresh water, and also by one decade of the activity is undertaken by the International fund on rescue Aral. The group of hydrometeorologists of all central - Asian states should follow after a drop of water from sources of Yaksarta - so in an antiquity named the river Syr-darya up to Aral Sea. Sources of this great water system, extent in 2,5 thousand km. lay in an ice cradle of Naryn - in lake at the foot of Petrov's glacier. Transcendental Kumtor gives rise to Naryn, merging with which Karadarya Keles and Chirchik form Syr-Darya. And though the main central - Asian river flows over through Tajikistan, Uzbekistan, and Kazakhstan, it is born and gathers force in our Tyan'shan mountains. From a hydrometeorological service of Kyrgyzstan in composition of expedition "Aral-2003" will be a film crew group of cine-video-centre "Epos" which except for scientific problems and monitoring of the actions directed on Saving the Aral Sea, will try to make a publicistic cut, having shown the relation of people in there is brotherly, and nowadays the sovereign states to problems of water use.

Water - a source of life. This true is so obvious, however and is banal. It would seem, in what a problem - well we pollute waters, well dries up Aral, well have transformed a river net into sewer system so they be waters - on the Earth look how many!

But that's just the point, that floating in water, our old Earth is more and more and starts to feel thirsty. Lack of fresh water already now derivates the whole complex of the economic, social and political problems, capable to undermine stability in the world and to result in global shocks.

And it all because the only unique in Solar system planet have the water inevitably becomes " a planet of the profaned waters ".

It would seem what to do with Kyrgyzstan? Mighty spines , boundless firns fields and huge glaciers, at the foot of which are born

the powerful rivers. Alongside with Pamir, Tien Shan is "water tower" of all Central Asia.

Glaciers - natural pantries of droughty region - it's " water tins ". In ice armour of Tien Shan it is concentrated more than 8 thousand glaciers, storing in of 650 cubic kilometers of the purest fresh water. It is difficult to imagine this sparkling magic crystal - the crystal heart of Tien Shan which is pumping over on arteries of the mountain rivers reviver.

Centuries mountain spines milked dry cyclones, managing a great water cycle in a nature. Eufemirs snowflakes pass the phase changes turned to the glacial streams, thawing glaciers returned the saved up water to the rivers. Those, merging, bore life to droughty foothills. Surpluses of water were accumulated in without dranage Aral Sea. Clouds, having incorporated sea evaporations again sowed with snow glacial files. So proceeded one thousand years while with a natural course of water has not interfered " crown of a nature ", its severe subjugator - in effect we with are you.

And suddenly, by steadfast consideration " the magic crystal " of Tien Shen has turned to a banal ecological pyramid at which top else the shagreen skin of glaciers grows white, on sides - valleys - oases, and at the foot already on half dried up, dying Aral Sea still blossom. The sea, still recently former 4th on size lake in the world, now has turned to two drying up reservoirs divided by a dam - Big and Small Aral between which the desert polluted with poisonous salts by the staying after drying of the sea reaches. All have disappeared 24 kinds of fishes of Aral Sea. The well-known "curtain" of sea evaporations protecting region from cold intrusions of Arctic air … has disappeared

And people killed the sea - their unreasonable water use. In a pursuit of unknown crops of a strategic monoculture - cotton, under the order of " the Kremlin dreamers " and " Michurins dictators " were dug, and by explosions made new irrigation channels and irrigating systems. Excessive development of irrigational networks in conditions of a droughty climate has resulted to mass saltening of the land, to the increased evaporation of a precious moisture. Construction of huge dams on the mountain rivers has braked a drain. Holded dams water in part evaporating, does not reach any more the dying sea.

So " architects of the light future ", submitting a nature, built channels, dams, erected the man-made seas … And Aral gradually died. Truly rights appeared Edji Lets, the author of a prophetical aphorism " Occupying desert, we shall lose oases ".

Dust storms replaced a moisture of storm, lift in an atmosphere the smallest peaces of salt and a dust. Leave them, accelerating thawing, polluting a drain, on the same glaciers, and without that degrading under powerful press of global warming of a climate. And you see glaciers will disappear - will die, absorbed by desert and oases of the Central Asia. And all this can take place on eyes of all of several generations.

Also what we - "wreaths" - are cleverer now in use of the nature, economically?

Yes, we like to think about value of water, comparing cost of a drop of water with the same quantity of gold. But at the same time, as business is insignificant is done to protect water resources to keep pure water for descendants.

And you see water is the miracle, granted to us - to people. Unless that fact is not curious, what radioastronomers search for extraterrestrial civilizations in a wave band from 21 up to 18 centimeters - between hydrogen and a radical OH which form water? Whether instead of a miracle what water does not submit to physical laws? Remember from the textbook of physics - all bodies being cooled, are compressed, and water submits to this law only up to temperature of +4 degrees then suddenly breaks it, extending. In a firm kind water is easier, than in liquid, differently ponds and lakes would freeze through to the bottom, carrying death to all alive in reservoirs. It is a lot of and other individual properties of water, down to well-known " crystal memory " - molecules of thawed snow "remember", it appears, about the recent crystal past. Therefore thawed snow also has the whole spectrum of wonderful properties. And not such homogeneous - our water. In middle of the last century three isotopes of hydrogen, among them dieteri, forming heavy water and triti were open. Three isotopes it is revealed and at oxygen. These isotopes, being combined in different combinations, provide up to 18 molecular versions, of which the purest water consists. Such natural isotope cocktail. And if

to add fifteen more various ions found out in water usual water completely not homogeneous unchangeable connection as believed till now turns out as the known expert and the singer of this natural substance Rolf Edberg has noticed, that ", - it consists at least of thirty three connections in various combinations ". And it without those impurity with which we award this divine juice of the ground.

The main thing that each drop of water on the Earth participated in its formation. The amount of water received once from space, never grows. Also it is never diminished, only the qualitative condition varies. Such wonderful substance - water. And in what we transform it …

According to the World organization of public health services, substandard water, and such three from everyone five inhabitants of the Earth now consume, is the reason of 80 % of diseases in the world. According to Jacque Iva Kusto - irreversible process of destruction of oceans began from the last century. On our eyes the whole seas perish. The mankind already now tests the most severe deficiency of water. And the thing is not in shortage of water, and in its absolutely wrong use. Extensive methods in agriculture have resulted to that only in Uzbekistan of 800 thousand hectares of the lands became salted or boggy, In Turkmenistan of the irrigated lands of 95 % suffers from saltening. The same picture and on the irrigated lands of Kazakhstan and Tajikistan. And in Kyrgyzstan flooding of settlements and agricultural cultures subsoil waters owing to failure of drainage systems becomes the present scourge.

Now in Kyrgyzstan the question on sale of water resources to neighbours rises. It is no secret, that having infinite stocks of reviver, each inhabitant of our republic uses only 60-150 litres of water in day whereas in Uzbekistan this parameter exceeds 400 litres, and in the Russian Federation and that it is more. Other thing, that flowing down with mountains in valleys, the purest water at once sharply loses the vivifying qualities, getting in zones of anthropogenous pollution. And you see buying our water, neighbours have the right to demand the certificate of its quality. And what certificate can be, if ecologists directly speak about a unsatisfactory condition of superficial and underground waters Chuyskiy, Jalalabad and the Osh regions.

It Is connected to out-of-date systems of clearing of city connection drains. In a significant part of our small cities and regional centers in general the centralized sewer systems and clearing constructions till now are not constructed. Practically all enterprises of animal industries have no systems of gathering, storage and recycling of drains.

Hangs above Syr-Darya the threat of radioactive infection which is starting with basins of the rivers Minkush and Maylisuu - tailstorage with waste products of uranium manufacture are ready to be splashed out in the rivers under an impact of landslips and earth flows.

In a pursuit for mythical " gold of Manas ", we - kirgiz people have put pawn in sacred sacred - at a cradle ancient Yaksarta, this greatest river system of the Central Asia, huge tailstorage of cyanide waste products goldmine manufactures.

Not all is safe with water and in territory of the next states. The staying in a saddle "michurintsy" again will reanimate idea of turn of the Siberian rivers, forgetting, that we have lot of water , and it does not disappear - it spoils from inept water use.

Of the most terrible to think it would not be desirable. But it is necessary. For the apocalypse will begin then when to the dying sea will carry the poisonous waters the rivers killed by the person.

The Moment of true for a long time has already come. It is necessary to pass after a drop of water from sources up to a mouth and to understand, that prevents water to remain vivifying and pure on all extent of the great river.

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ECOLOGICAL KYRGYZSTAN

The Kyrgyz Republic (Kyrgyizstan) is a highland with high snow piks, eternal glaciers, picturesque valleys and gorges, relic woods, transparent air, blue lakes, the purest water and a unique biovariety.

Kyrgyzstan is located in the centre of the Asian continent, has the common borders with Kazakhstan, China, Tajikistan and Uzbekistan. The area of territory - 199,9 thousand sq. km from which 5,5 % is occupied with woods, 4,5 % - water, 4,2 - glaciers, 53,5 - agricultural corps. The height of territory varies about 350 up to 7439 meters (Pobeda peak) above sea level (90 % is at height more than 1000 meters, 40 % - 3000 meters are higher).

Climate - sharply continental, cold winters, summer dry, hot, with the big deviations on height. The average annual temperature in valleys in the summer 17-27 C, reaches up to-45 C in the winter. The highest temperature can exceed 40 C, at the same time, at height of 3000 meters it reaches 10 C. The level of deposits is not uniform on territory, for example, the greatest quantity is fixed on slopes of Fergana ridge of 1000 mm, on west lakes Issyk Kuls - 200 mm, and in the east ~ 600 mm etc. Long solar light makes more than 250 days in one year.

Kyrgyzstan is area of formation of water resources of the Central Asia. The general stocks of underground and superficial waters make 2,46 thousand km3, from them on a share of lakes is necessary 71 %, glaciers - 26,4 %, the rivers - 2 %, underground sources - 0,5 %. There are 1023 lakes the general water table 6840 sq. km. The most beautiful high-mountainous nonfreezing lake Issyk Kul is located at height of 1600 meters, is the second in the world on depth - 705 meters. In territory of Kyrgyzstan originate more than 27,8 thousand big and small rivers. The mid-annual drain of the rivers reaches up to 50 km3, and a water-fence makes about 10 Km3, i.e. Kyrgyzstan uses all 20-25% water resources, and more than 75 % leave to the adjacent states. The main water-consumer in Republic is the agriculture - 95 %. The

industry - 2 %, sphere of services of the population - less than 3 %. Annual volume of dump of sewage - 1 km3, and total losses of water make about 2,5 km^3.

Kyrgyzstan has vivifying mountain air, rich aeroions and hydroions. It mountain - valley circulation promotes it filtration and to enrichment by curative ions. Natural maintenance of a qualitative condition of an atmosphere is determined by a mountain arrangement of its territory, presence of woods, the big area of eternal glaciers and high snow tops, huge number of the cascade of falls of the mountain rivers. The main pollution of an atmosphere is caused by transboundaryed shift of a dust, motor transport and others technogenes emissions.

There are more than 8200 glaciers in Kyrgyzstan the general area of which is 8,17 thousand sq. km and in volume of 650 Km3. According to glaciologists lately on Tien-Shen, Pamir-Alay has thawn more than 2000 glaciers which recede with average speed of 8 meters per one year, are reduced not only their linear sizes, but also volumetric. It influences on rivers water, vegetation and, first of all, change of a climate of the Central Asia. The reasons occuring destructuring congelations a little, and one of them - global warming of a climate. By UNEP data last decades there was an increase of ground temperature of air in mountain areas on 1,6C. To the natural reasons of thawing of glaciers concern pollution by their dust (up to 20 grammes / m2 per one year), formed as a result of aeration and carry by dusty storms from Iran, Afghanistan, China and other deserted areas.

Now in laboratory " Geophysical monitoring " of the stations "Teplokluchenko" in an atmosphere periodic occurrence of sustainable aerosol formation is revealed. Within the framework of UNEP Program the given formation named by " the Asian brown cloud " (ABC) was established, that, settles down on border of troposphere - stratospheres and consists of sulfur, firm particles, carbon, toxic waste products, fertilizers and other organic connections. ABC results in a drought and abnormal changes of weather since detains the solar radiation, reaching surface of the Earth and increases heating an atmosphere (hotbed effect).

By the natural-climatic conditions about 30 % of territory of

Kyrgyzstan is suitable for constant residing people, less than 20 % concern to zones with rather comfortable conditions in which the overwhelming majority of the population of Republic lives. Kyrgyzstan concerns to especially vulnerable ecological system subject to anthropogenous influence. On a background of a worsening ecological condition growth of the population complicates the decision of problems of wildlife management as compels a part of people to live and work in economically vulnerable areas. The reduction of a standard of living of the population and absence of an opportunity of use of alternative kinds of fuel (coal, gas, oven fuel)conduct to increase of volumes of cutting wood. Because of anthropogenous destruction of an inhabitancy of animals and plants, environmental contamination loss of a biological variety proceeds. Now threat to a biovariety is represented with a new kind of private business - the International hunt and tourism which legislations at imperfection become aggressive in relation to a nature.

Fast growth of the population, intensive development of the industry and agriculture demand transition to new principles of water use, revision of structure of areas under crops in an agriculture and acceptance of urgent measures on protection of a biovariety. At a meeting in Dushanbe (Tajikistan, 05.10.02) are accepted by Heads of five states of the Central Asia " the Main directions of the Program of concrete actions on improvement of ecological and social and economic conditions in Region for the period of 2003-2010 " it Is necessary to use the best efforts to keep ecological cleanliness of a nature of Kyrgyzstan, as source of pure water, vivifying air and a unique biovariety of the Central Asia.

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